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The Pacific Tree and Vine

Vol. XIX No. 47

FEBRUARY, 1903

Keep Your Eyes on Palo Alto

Palo Alto Real Estate

Houses Sold during 1902
by J. J. MORRIS

56

If you are desirous of selling your home, list same with us. We have inquiry for houses from four to ten rooms. We are expecting an active spring trade. Our list is low at present.

$8,500—A beautiful home in Palo Alto. Large 2-story house of nine rooms and bath; all modern conveniences. Large lot — 150x280; family orchard; excellent neighborhood. Good value at $10,000. 29

$3,500—2-story house of seven rooms and bath; modern improvements. Location, Waverly street near University avenue. 42

$2,750—Seven rooms and bath. Waverly street near Hamilton avenue. Splendid bargain. Good value at $3,250. 56

$3,600—Ten rooms and bath. Large lot, centrally located. A very comfortable home place offered for sale at a sacrifice. Good value at $4000.

Town Lots and Farm Lands

Palo Alto—A place for your money where it will increase; I'll give you value for value in real estate; will make your money go as far as it ought, and get for you that which will increase your possessions; in town or out I have some very attractive pieces of property that will be worth owning.

Unimproved Town Property

Palo Alto—One whole block of land, splendidly located; can be subdivided advantageously. you had better see me about this soon.

Palo Alto—Another splendid bargain, ½ block of land, sightly located. This ½ block is to be sold this week—first come, first served. Chance to make a nice turn on the money invested.

Palo Alto—½ block of land, location desirable, must be sold on or before the 28th inst. For a cash transaction this ½ block can be purchased at a very low figure.

Palo Alto—A choice residence lot, close to Episcopal church on Hamilton avenue, 100x200, cheap. This is one of our best locations.

Palo Alto — 100x200 on Hamilton avenue; am offering this lot for $1000—the cheapest lot offered for sale in Palo Alto considering location.

Palo Alto—Lot 100x110, close to University avenue on Ramon street. Chance for a good investment. This property ought to be looked at. Must increase in value.

Improved Property

Palo Alto—Cowper street, sunny side, 10-room house, modern and attractive, large lot, splendid barn. See me about this piece of property, it is to be sold at a bargain.

Palo Alto—2-story house of seven rooms and bath, on Cowper street, to be sold furnished. This property is now rented and pays about 12 per cent per annum.

Palo Alto—9-room modern house, large lot, family orchard, 150x280; this property must be seen to be appreciated.

Improved and Unimproved Acreage Property

$4,400—22 acres of land adjoining the town limits of Mountain View. Good soil, desirable for residence or orchard purposes. 146

$5,250—13.90 acres on Giffen avenue, 7 acres of prunes and 5 acres of apricots in full bearing. New 8-room 2-story dwelling with closets, bath, etc. New modern barn, well and pump. Very convenient to Stanford University. Terms, ½ cash, balance on time. 147

$6,000—10-acre improved place, 1 mile from Mountain View and 3 minutes walk from Castro station, in a good corner; 5 acres of French prunes 7 years old, family orchard. 5-room house, large barn, tank, windmill, chicken house. Terms, ½ down, balance 3 years' time; title perfect.

$7,000—A beautiful home of ten acres best land in Santa Clara valley, planted with apricots 2 years old; 2 miles from Stanford University, and 1½ miles from the depot, fronts on the San Francisco road, house of 9 rooms, bath and cellar, nicely furnished, windmill and tank-house of 2 rooms, laundry, water piped over the place, vegetable garden and family orchard, large barn; chicken, pigeon, rabbit and dog houses; ranch is well fenced, fine double team, single and double harness, fine spring wagon, good road cart, tools, implements and wood. Insurance, $3,500. 19

$12,000—83 acres, 4 miles from Mayfield and Stanford University; house of 11 rooms, barn for 6 horses, water from spring. This is in the foothills and is a very pretty place. Terms, ½ down and balance on long time. 26

$6,000—14½ acres between Mountain View and Mayfield, all in bearing prunes; 350 Robe de Sargent prunes 100 grapevines, 10 acres French prunes, family orchard. 3-room house, fruit house, good well, 600 trays, fruit boxes, track, cars, and all necessary apparatus for drying fruit, fine large oak near the house. Terms easy. 18

$6,500—34½ acres of land near Santa Clara; 6 acres prunes; 1½ acres apples and pears; house, barn, tank and windmill; all necessary outbuildings. 44

$2,200—5 acres in bearing prune trees, on the Springer Road, 2 miles from the town of Mountain View; 4 room house and basement, well, pump, small barn, and nice oak trees, splendid neighborhood; terms part cash. 65

$1,750—5 acres on Moody road about 2 miles from town, planted to bearing orchard, about two-thirds apricots and one-third prunes, free from frost, and very desirable for residence purposes; easy terms. 86

$12,600—A 60-acre home on the Homestead road, about 5 miles from Mountain View, in the warm belt, planted as follows: 25-acre prune orchard in full bearing, 30 acres young apricots, 2 years old. There is a 7-room dwelling with bath, etc. large barn, windmill, tank, tank-house, and all necessary outbuildings. The buildings are surrounded by elegant live oaks. It is well located and would make an elegant home. The orchard is in first class shape and can be purchased in 10-acre subdivisions at the following prices: Bearing prune orchard, $250 per acre; 2-year old apricot orchard, $200 per acre. 93

$4,500—10 acres on the Moody road, planted to bearing Salway peaches. 2-story, hard-finished house, tank, windmill, barn and cellar. This is very desirable property, situated in our best fruit and residence section, and very desirable. 122

125 acres of land 3½ miles south of Palo Alto, $135 per acre. Best fruit belt in Santa Clara county, surrounded by fine homes 201

125 acres of the best fruit land in Santa Clara valley, 3½ miles south of Stanford University, warm belt, excellent neighborhood.

J. J. MORRIS

PALO ALTO ——— CALIFORNIA

Entered at Pal[illegible] as Second Class Mail Matter.

The Pacific Tree and Vine

PALO ALTO PUBLISHING COMPANY, PALO ALTO *and* SAN JOSE

VOLUME XIX. NUMBER 47. FEBRUARY, 1903. MONTHLY, 50 CENTS A YEAR.

THE HORTICULTURIST

The Codlin Moth and Other Items

Prof. Woodworth and Prof. Clarke, Entomologists of the State University, have been visiting the country around Watsonville, and arranging to establish stations for the purpose of making a thorough study of the codlin moth in the apple orchards there during the coming summer. In the interests of the suffering apple growers, it is to be hoped that Prof. Woodworth's investigations may result in some relief for them from this pest, the worst of all the fruit pests against which we now have to contend. We believe it is the Professor's intention to make experiments looking to better means of combatting the moth in some of its earlier stages, at which time it is within reach. The life history of the codlin moth has been thoroughly studied and recorded, so that there remains little to be done in this direction, but our method of fighting the pest is still cumbersome and unsatisfactory, and there is a broad field for investigation. The great difficulty in fighting the codlin moth is that it must be reached in the short period of its life which elapses between the hatching of the egg and the time it burrows beneath the surface of the apple, as it is only during this period that is within reach. As soon as the little moth larva is hatched it begins to eat its way into the center of the fruit, and in a very short time burrows beneath the surface and is out of reach of any of our present poisons. If when it is hatched it finds a fresh supply of poison coating the fruit, it absorbs some of this, and at once retires from active service. This renders necessary frequent sprayings, and entails heavy expense upon the orchardist. TREE AND VINE sincerely hopes that Prof. Woodworth's investigations may bear good fruit, and that he may discover some cheaper and more effective way of keeping this great scourge of the apple grower in check.

The pruning season is with us again, and in many orchards the tree butcher is vigorously at work, in too many cases destroying his employer's chances of a remunerative crop. If there is any branch of orchard work which requires the use of brains it is in pruning, yet too often anyone who can wield a saw, a pair of pruning shears or an ax, is supposed to be able to prune a tree. The skillful pruner is worth his weight in gold He should be acquainted with the habits of the different classes of trees, and even of the different varieties of each class, and know just what wood to remove and what to leave; whether to cut both vigorously or to spare the tree. In some cases, with peaches, for instance, there has got to be severe pruning, or the tree is apt to overbear and break down, and yield a large amount of inferior fruit. Even in this case some varieties should be pruned to throw the greater part of their new growth to the center of the tree, while others can be trained to a more spreading habit. Other trees, as the prune, the walnut, and the fig, require little cutting back, merely the removal of interfering wood. Then, the age of the tree is to be considered. The young tree has to be pruned, and is pruned so that the new roots may take the shape it is desired that the tree shall assume. Even the character of the soil on which the tree is growing is a factor, for the stronger the soil, the more vigorous will be the growth of the tree, and more severe the necessary pruning. We remember a case in which an Italian who had been brought up in a vineyard and worked by the rule of symmetry was turned loose in an orchard because he was a "pruner," and, following his rule, cut the trees all back to three buds. In another case, a landscape gardener from England, who understood growing ornamental trees, was set to work to prune an orchard, and when he was through all the trees were of a uniform shape and the orchard was a model of beauty, but there was no fruit. So it is necessary that the pruner should understand the nature of the tree and the object for which he is at work, and shape it to that end.

The prune growers of the State, will enjoy a better Christmas this season than they did last, in view of the advancing price of their product. The active demand for prunes in the past month reminds the growers of the old times when it was not necessary to hunt up a market for their fruit, but found it at their door. While the high prices of the past will never again, in all probability, be reached, it is to be sincerely hoped that we have passed the worst, and that our growers in the future will get a fair price for their crops.

The Olive in California

By JOHN ISAAC

The future of the olive in California is a problemetical question. There is hardly any section of our State, outside of the higher mountains and the desert areas, where the olive will not flourish. It has been a very popular fruit during the past decade, and men with full faith in its future have set out thousands of acres of trees, most of which are now coming into bearing, and we are at last brought face to face with the question, What shall we do with our olives? The olive industry has flourished in Europe for all time, and in the Latin countries it is the poor man's meat. It is part of his daily diet, and the oil takes the place filled with us by hog's lard in cooking. Knowing the popularity of this fruit in Europe, there is no reason why it should not be equally popular in our own country, throughout which so many Latins are scattered, and who know so well the virtues it possesses as food and medicine.

But our olive growers have several difficulties to contend against, and which they will have to overcome before their industry is established upon a permanent and paying basis. In the first place the taste for the olive is an acquired one. The great bulk of our people have never been used to eating them, and have to be educated up to it. The same is largely true of the use of olive oil. It has always been an article on sale in the drug stores, and has been generally regarded rather as a medicine than as a food. The prejudice against the olive both in the form of pickles and oil has got to be overcome and the people taught that it is a healthful, pleasant and proper article of food. This will require time and united effort on the part of the growers. A second difficulty to be overcome is the fraudulent practice of selling spurious oils, cottonseed, lard and nut oil, and at prices for which it is impossible to produce the genuine article. The users of olive oil should be made to know that they are being swindled and their health endangered by these fraudulent practices. This also requires united action. The growers, to a man, should unite to repress the sale of fraudulent oils and doctored pickles and see that only genuine goods are supplied to the public.

Before the olive industry becomes a success our growers have got to profit by the experience of our wine makers, our dairymen and fruit growers. In all these cases where each individual manufactured his own goods and was forced to market them individually, he made a failure. There was no uniformity of quality, and no means of easily reaching the consuming public. The establishment of central creameries, great wineries and canneries and driers. The adoption of a system of grading and selling the goods under the brand of a great establishment, have given the consumers a guarantee of quality and made a steady demand.

Our olive men have got to organize. Their fruit must be worked up at great central establishments, and put up under their brand with

a guarantee of purity. They have got to exploit the Eastern market and educate the people into using their products. All this requires effort, money and patience, and while it will bear lightly upon all, it would bankrupt the individual.

We can raise olives, we have as good soil, climate and conditions for them as any place on earth. This has been demonstrated. We now want a market for them, and to attain this it is necessary for our olive growers to organize and work together to the one end. If this is not done it will be "every man for himself and the devil take the hindmost," and it is nowise certain that he will not take them all.

The Labor Problem

The committee of fifteen appointed at the late Fruit Growers' Convention to take some measures to relieve the stringency of the labor market, have gone to work in earnest. The railroads have extended to them every assistance possible, and have offered to make exceedingly favorable rates for labor from eastern points, and also to publish whatever literature the committee may issue setting forth the advantages California has to offer to the laboring man. It is the intention of the committee to send into different sections of the East practical farmers, men who are capable of telling about California, and who can come in touch with the far ing element there, and it is hoped that by this means a large number of enterprising and energetic young men may be induced to come to our State before the next fruit season opens, and that the great stress of labor from which we have suffered for several years past may be relieved. So far as the railroads go all is easy enough, and there will be no trouble in reaching the people by the plan outlined by the committee, but there are great difficulties to be encountered and which the employers themselves alone can remove. In the first place, there is a very active demand for farm labor at the present time all over the East. No man there need be idle except from choice, so that the mere prospect of a job will be no inducement. There is very little difference between the wages paid in the east and those offered in California, while the superior condition of the farm laborer there more than offsets whatever difference there may be in wages. In the East the farm laborer is usually a neighbor's son and he is treated as a member of the family. His employment is not regarded as degrading. He eats with the family and is furnished with comfortable sleeping quarters. In California we have been used to Chinese laborers. We have treated them like so many cattle and they have been perfectly contented with such treatment, probably because they deserved no better. On many of our large ranches and orchards this has come to be looked upon as the proper method of treating the laboring man, and regardless of his rearing or his finer feelings, if he have any, he is turned loose to eat and bunk with Chinese, hoboes and other cattle on the ranch. As Mr. Righter put it at the Fruit Growers Convention:

"The young men of the East have not been used to sleeping except in a bed somewhere; they have not been used to being taken out into a field and told, 'There is your bed, twenty acres of it.' I am not surprised that these young men say: 'What are you going to do with us?' They will not go into a twenty-acre field with the hogs.'

There are numbers of young men in the East of an adventurous turn who would be glad to visit California. There are men with families who would be pleased to make their homes here, for California is a charmed name in the East. It is easy enough to induce them to come, and the railroads will assis to the extent of their ability, but when these people come they have got to find as good accommodations and as kind treatment as they have been accustomed to in the East. Failing in this, all our efforts to get this class of labor will be in vain, and we shall still have to rely upon an inadequate supply of Chinese and Japanese. It is now up to our farm and orchard employers themselves, what will they do with this eastern labor when it comes?

THE OFFER of the PACIFIC TREE AND VINE to delinquent subscribers is repeated in this issue. Read it.

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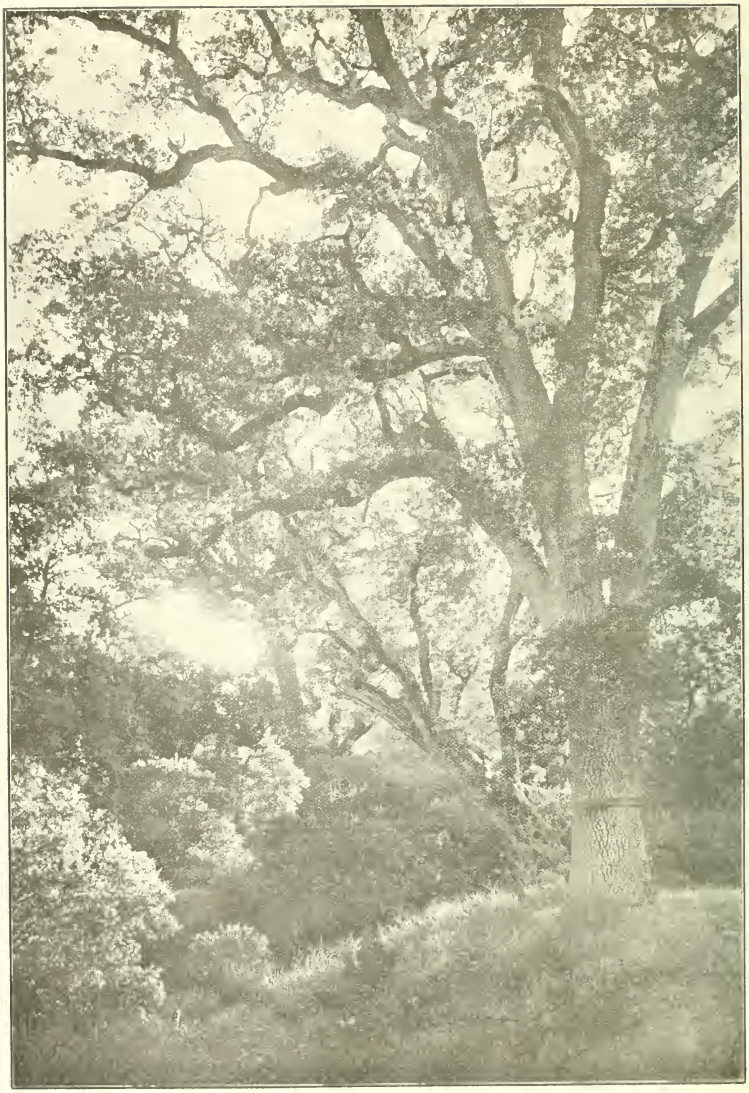

CALIFORNIA OAKS

Citrus Fruit Growing

By JOHN ISAAC

A prominent orchardist once informed us that there were only two kinds of pears, the Bartlett pear and pears. On the same principle it may be said that in California at least, there are only two kinds of oranges, the Navel and oranges, and we do not know but what we might safely curtail this list and say there is only one orange in California, the Navel. Certain it is that this queen of citrus fruits has won its way to the public favor, that it stands at the head of all others and is practically the one variety grown here. The Valencia late, comes in second, but is a long way behind its companion. The last named has the desirable quality of extending the season, as it comes in after the navel, and can be left on the trees until it is desired to ship it, and is therefore a very desirable variety for shipping late in the season, when it sometimes commands good prices, owing to other fruit being out of the market. But the navel is ahead of all, and, during a recent tour of the orange growing districts of the State, the writer found a large number of orchards of other varieties being worked over, and in every case it was some former favorite variety which was giving way to the navel. In Tulare county a number of lemon groves have been top-grafted to navel oranges, and in Riverside we found some old groves being dug out in order that more profitable young navel trees might take the place of the old trees.

In view of the fact that much interest is being taken in the orange in the northern sections of the State, and that the growing of this fruit is no longer confined to the few southern counties, a few facts concerning this fruit may not be out of place here. In the first place, the orange will stand for a short time a very low degree of temperature, as low as 24 degrees or even 22 degrees without serious injury to the tree, but we should not advise planting oranges where this temperature is common. The orange requires a warmer temperature to do well than does the lemon. The latter will do well in a much cooler location than the orange, but will not stand so low a temperature, and the trees will kill down in a frost that would do an orange no material damage. It is now claimed, however, and from our own observations we think justly, that by grafting the navel on the deciduous or trifoliata stock the tree is rendered more hardy, and oranges can be grown with a lower range of temperature than can be done with ordinary stock. The orange, being an evergreen, has several periods of growth in the season, and is apt to be caught by a cold snap at the time it is least resistant. The trifoliata stock being deciduous, rests during the winter season, the wood has hardened before the cold weather comes, and it is therefore in a condition to resist any ordinary cold weather that we may have in California. If these claims for this stock are true then it will very largely widen the citrus area of the State.

Citrus trees may be planted at any time, except when they are making their new growth. When the new growth has hardened they may be removed to their new location, and this in Southern California is usually during the hottest weather of July. The trees should be taken up with a good ball of earth attached, removed to their new location with the least possible delay, and find there a hole ready for planting. They should be set at the same depth at which they grew in the nursery, and be kept well watered. Before planting the leaves should be removed, leaving only the petiole attached to the twigs. It is easier for the tree to make new leaves than to revive the old ones; which will drop off in time if left.

The orange requires good soil, well drained, and as they say in south, wants its feet dry. That is, it will not do well in stagnant water. A loose, friable soil, a sandy loam, or even a gravelly loam is the ideal soil for the orange. It should be free from hardpan and if it can be irrigated, so much the better.

It is not improbable that sections of the San Joaquin and the Sacramento valleys will yet become the principal orange portions of the State. In the extreme southern counties the nights during the summer are chilly, owing to the cooling effects of the sea breezes, and the growth and ripening of the fruit is retarded in consequence, often being so long delayed that the frosts of winter overtake it before it is ready for market, thereby entailing heavy losses on the grower. The warmer summer nights of the interior counties enable the fruit to grow continually, and in consequence it ripens much earlier and is ready for market before any killing frosts arrive, or is so far advanced as to resist them. These points of superiority are so well recognized that many of the larger orange growers of Southern California are reaching out to the northern counties, and many of the principal orchards here are owned by them.

One of the most serious pests with which the orange growers of Florida have to contend, is the White Fly of the orange and lemon of that State, but which, from reliable information received by the California State Board of Horticulture, has now spread over the whole of the State, and there is now no section free from its ravages. The aleyrodes is a very small insect, which in its earlier, or larval form resembles the scale insects, and it was originally classed with the scale family. It has a marked dif-

(Continued on page 29)

Small Fruits

The Raspberry

The past generation has seen a remarkable spread of the interest in the cultivation of the small fruits. Not so very long ago they were considered to be quite unworthy the serious attention of the cultivator, and, in fact, this feeling still lingers among the farmers. However, from mere garden accessories, the small fruits have come to be commercial crops and are the main reliance of many fruit-growers. There are plenty of men whose main or money crop is raspberries or blackberries.

All these small fruits yield quickly to good care. They are shallow-rooted plants, depending to a great extent on the good tilth and richness which the farmer provides for the surface of his land. Bearing in summer, the excellence of the fruits depends very largely on the supply of moisture in the soil, and this moisture is stored and saved by good tillage. In a very dry time the raspberries and blackberries are often so hard and juiceless as to be hardly worth the harvesting unless the land is in "good heart" and the man keeps his cultivator going in the plantation. This thorough and continuous cultivation is the first requisite to success in bush-fruit growing, particularly with raspberries, dewberries and blackberries.

Intelligent pruning is imperative to any success in the growing of the bush-fruit. On the newer wood the fruit is borne, and the old wood should be cut away as soon as its usefulness is past. Then one must limit the number of shoots that arise from the crown in order that the plant may not be choked with too much growth.

In all the bramble fruits—blackberries, raspberries, dewberries—the wood bears but once. Let us suppose that the shoots spring from the crown in the spring of 1900. It is well to pull out all but three to six of the strongest. By fall these shoots or canes have reached their full stature. In 1901 they will bear their first and only crop. After the crop is off or before the following spring—they should be cut out entirely. In the meantime—in the spring of 1901—another crop of shoots has arisen to bear in 1902; and thus the biennial succession goes on.

Currants and gooseberries also bear on the second-year wood, but this wood also continues to bear for a year or two or three there after The first two crops on any cane are usually the best, however, and it is therefore the practice of good growers to cut out some of the old and weak wood each year—that which he judges to be past its usefulness—and to allow two or three new shoots to come on each year from the crown. In this way the bush is in a constant process of renewal from the root. Such plants are low and condensed, whereas the bushes one commonly see about old yards are tall, sprawling and productive of very inferior fruit.—Country Life.

To the amateur the raspberry in its cultivation furnishes more entertainment and satisfaction than any of the small fruits—the strawberry not excepted—because of the wide variation in the character of the plants and in the quality of the fruit. There is solid comfort in passing from variety to variety, and from one individual bush to another when the fruit is ripening, watching the characteristics of the plants and testing the quality of the fruit in the different classes. One can do this with greater ease than with strawberries because it does not make so great a stain on the back. For the amateur the keenest pleasure is not found in the fruit upon the table but upon the plant, and the pleasure one gets from taking his friends into a raspberry plantation and saying: "Now, help yourselves and tell me which you like best," is one that cannot be considered alongside of a bank account.

The kind of soil is not of so great importance as its quality: that it is to say, fine raspberries can be grown on clay, sand, loam, or even muck, provided the necessary food is given to develop the highest perfection of cane and berry. Soils that are rich in humus and nitrogenus matter can be supplemented so as to give the greatest perfection in fruit by the addition of small quantities of unleached ashes and ground bone at a very slight expense for the small plantation required by the average family. While the main object sought in the culture of raspberries for home use is beautiful berries of the best quality, there is a secondary use of the plants that always appeal to me, and that is the beauty they add to the home grounds. This is especially true of the black-caps, the canes of many varieties of which add color to the landscape in winter. The background and sides of a vegetable garden can be made exceedingly attractive by the proper use of the raspberry for embellishment, and not in the least take from its value in contributing to the family table.

The points that I would emphasize in connection with raspberry culture are:

1. A thorough preparation of the soil.

2. Wise discrimination in selection of varieties.

3. Annual feeding of the plants with the proper fertilizers.

4. Thinning of the canes to from three to five to each plant, never allowing a weak one to remain.

5. Pinching back the shoots so as to develop side branches and vigorous fruit buds, cutting back the branches in spring so as to limit the production of fruit to

what the plant can develop to perfection.

I must not neglect to say one word about another value of the raspberry. To one who has had experience with the possibilities and values which can be obtained from raspberry jam under the skilful direction of a good housewife, this is no mean consideration in connection with the culture of this delicious fruit. While I would hardly put this pleasure in the same class with that which we derive from picking the luscious berries from the vine, still it is one of great interest to the lover of delicious fruit produts.—Country Life.

Dewberries

The dewberry in its glory is a most luscious fruit, but it is known only in our large markets. Many of our small dealers in the local markets have never even heard its name. Its cultivation has been left to the specialist almost entirely, because most farmers have been ignorant of the great value of the fruit and the methods of its cultivation. The farmer has been fighting the wild dewberry all his life, and is loath to believe that any good can come out of Nazareth. If he only understood how easy dewberry culture is, he could add a money crop to his list with small expense and trouble, which, if given the right treatment at the proper time, would be a very profitable investment.

The best location for the plantation is an eastern slope, and on rich and well drained land. Set the vines seven feet apart one way and four the other in order to allow plenty of room for cultivation, which during the first season should be the same as for potatoes, or other hoed crops. Cultivate one way with two horses and harrow, and the other way with a one-horse cultivator.

After the vines have commenced to run so as to interfere with the cultivation use the harrow, throwing the vines in a row, and if you are careful always to drive the same direction in the same row you will not tangle up the vines, which will make a difference when you tie them up.

The second season the vines must be staked and tied, or else tied to wires strung on posts. When stakes are used they should be heavy, and firmly set in the ground, the tops about six feet high. The vines should be carefully raised and tied up, and all short spurs cut out, giving a better chance for what is left and letting in the light. The land should then be plowed and harrowed, the rows hoed out clean, and the harrow kept going frequently all summur, the new vines being kept in a row as before. These vines should be left on the ground all winter, and in the spring the old vines should be cut out and the new ones lifted and tied in their places. The wire method of training gives the finest fruit, but does not give as good an opportunity for cultivation as when the vines are tied to stakes and are in rows both ways.—Country Life.

Currants

My experience with the culture of currants may be very breifly stated. I have found that they do much the best in heavy clay soil; on the drier and more gravelly portions of my patch there is a great falling off in growth and productiveness. We trim them every fall cutting out the old and half-dead canes. Coarse stable manure seems the best fertilizer, though we have used ashes and bone meal. As to kinds, I would never again set out Fay Prolific, as I have found it very unsatisfactory. It will not stand up in a wet season, and it is short-lived and subject to disease. The hardiest variety and the kind that has given me the best results is the old-fashioned Cherry currant. In dealing with the currant worm we use Paris green. Hellebore cannot be relied upon.—Country Life.

SOUTHERN PACIFIC

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THE FARM AND GARDEN

A Homemaker's Yard

There are many good yards, but there are many more that are disappointing. Few are ideal. The ideal yard must have seclusion, and the ideal means of securing it is by the use of shrubbery. Ours is certainly poor as judged by conventional standards. The sward is by no means beyond criticism and an account of the specific causes for its condition, together with a story of the struggles to overcome these peculiar difficulties, would fill a book. But, after all, it is a good place, good to look at and good to live in. Everything has been dug up at least once in seven years and set somewhere else—that is, everything except the old trees—and most of the things have been moved several times within that period. They are likely to repeat the experience. That is half the fun of having a little place.

But if it is so imperfect, why is it satisfying? Largely because it is usable, and because the nondescript collection of growing things grow for dear life very much according to their own sweet will. Vines are sometimes diligently instructed (at the opening of the season) in the route they are to follow and thereafter are allowed to travel where they please. They are much prettier so. Even climbing nasturtiums are much better if merely given a slight hint as to where they are wanted by being sown in a particular location, and then left to fill their space as they themselves elect. Vines know much better what to do than any one can teach them. Then no one ups the ends of the shrubbery branches, nor lops the lower limbs of the strong, vigorous young trees. The inclinations of the plant inhabitants of the place are not constantly thwarted. The human residents do not object to character and individuality in these agreeable members of the family. If the plants were sheared, every tree and bush might be a duplicate of every other of the same kind and age. Then there would be hard monotony where there is now agreeable variety. If things crowd, one shrub or tree may be removed without spoiling any plan of symmetry or interfering with any hard and fast design. The plants seem to be grateful for their freedom. Some of the old trees exhibit a rather too monotonous tendency to bare trunks. It is not their fault. They are being brought into relation with other things by being shielded with vines and shrubs, and they take very kindly to the innovation In time they will have adapted themselves fully to the place.

For the rest, there is variety of light and shade; there is seclusion; there is enough irregularity of line and mass to give pleasant mystery; and there is always some flower-spangled shrub, or vine, or plant, or berry-laden bush, some flush of changing color, as an accent of interest. Snowdrop and scilla and crocus star the fresh spring grass; violets carpet the ground under the shrubs; quaint Jack-in-the-pulpit comes with the early spring; clumps of narcissi amplify the sunshine; flowering shrubs take their turn as vases or fountains of bloom; dazzling oriental poppies flame out and are gone; stately irises rise from the mold; there are roses, creeping, climbing and shrubby; masses of

ferns fill shaded nooks, fresh and cool-looking in mid-summer; honeysuckles and purple clematises look in at the windows. There is a tumbling spray of small-flowered clematis blossoms; there is a merry fusillade of the witch hazel at one season and the elfish toss of its yellow curls at another; there are at last the dark silhouettes of evergreens against the pure lawn covering of winter.

Blackberries

TREATMENT

THE Maine Experiment Station gives the following instructions as to the time for pruning and transplanting raspberries and blackberries, which are equally applicable to California conditions:

"The ideal treatment for raspberries and blackberries is to pinch them back at intervals during the summer and thus secure strong, sturdy bushes 3½ to 4 feet high, with laterals 1 to 1½ feet long, rather than to practice severe heading back after the plants have become long and 'leggy.' If, however, as is frequently the case even in the best managed gardens, the plants are at this season making vigorous growth which may not mature, they should at once be cut back to the desired height, and the canes will harden before cold weather. Many prefer to cut back the bushes in the spring, after the extent of winter-killing is determined. Thinning the canes, which should always be practiced, may be done at any time during the season. In general, one-half or more of the young canes which appear should be cut out.

"Blackberry and raspberry bushes may be transplanted this fall if the work is done immediately, but better results are usually obtained from spring planting. Currants, on the other hand, have given rather better results from fall setting."

SEND fifty cents and receive the PACIFIC TREE AND VINE for a year.

Citrus Fruit

That people in Central and Northern California have an abiding faith in the outcome of the citrus fruit industry is evidenced by the fact that larger areas than ever before are now being prepared for setting out orange and lemon trees, and especially the navel orange. The greatest activity in this line is shown in Tulare county, and especially around Lindsay, Exeter and Porterville. This whole section is being rapidly transformed into one vast orange orchard. The shipments from this section are increasing each year, and in a few years, as the new orchards come into fuller bearing, it will become known as one of the most important orange districts in California. In the matter of extending the orange area of the State, Butte County is a good section and some very large plantings are reported from there. It is the opinion of many of our best informed fruit men that the day is not far distant when the counties north of Tehachapi will be the most important citrus section of California.

Canada's shipments of apples this year are over three times what they were last year, and about double what they were in 1900.

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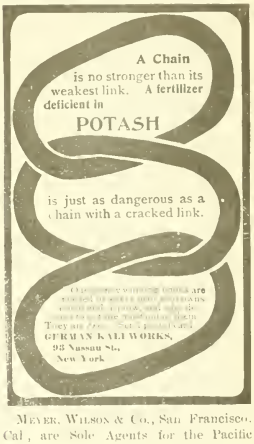

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The Flower Garden

Women Florists

Women are gradually making their way in the flower trade both as growers and dealers, and many of them are making a reputation for themselves in their chosen calling. Among these we may instance in our own state, Miss Theodosia Shepperd of Santa Barbara, who has attained world-wide prominence from her labors and who stands second in our State only to Luther Burbank, for her experiments and new creations in the floral world. This is a field that offers especial charms to woman, and in it she should excel, for she possesses the qualities required, taste in arrangement and delicacy in manipulation, which are especially required in hybridizing. There is a charm in flowers to women possessed by few men, and it is said that when men grow flowers it is to please some woman. Whether this be true or not, it is true that women are the greatest lovers of floral beauties and the best judges of their charms. They can select and arrange with infinitely more taste than men, and for that reason are better adapted to the business. Another thing that recommends floriculture to women is that it requires little manual labor. This is the least important part of the work and can be performed by men; but in crossing, hybridizing, and the production of new varieties, taste in selecting, care in crossing, and method in the work, are required. These are rare traits among men, and where employed by women there is no reason why they should not succeed.

Shrubbery in the Home Grounds

In these brief remarks it is not my purpose to enter into the minutiæ of lawn planting and ornamentation, but rather to note a few of the leading principles in this branch of landscape gardening principles which should underlie any work of detail.

First, the shrubberies of a place give it picturesqueness; the trees confer distinction and grandeur. Shrubs, or bushes, or half trees—for the dividing lines between them are not very definite—have a marked and important function in any scheme of lawn planting. They should form the intermediate feature of lawn effects, connecting the different parts of the general mass, first the trees, then the shrubs, then vines and herbaceous plants, and then grass. The beauty of a varied sky line produced by the intermingling of trees and shrubs should always be sought. There may be circumstances in which shrubs alone should be used, and, in a few situations, groves of trees, containing no shrubs, are felt to be specially suited to the surrounding-, but the mixed tree and shrub group most frequently commends itself to the improvement of home grounds.

The mistake of setting shrubs under old, long established trees

should not be made, although unfortunately it is common; and we see shrubs like Rhododendrons and Privet misplaced in this way. Undoubtedly they do better than most other shrubs under these difficult circumstances, but they seldom prove permanently successful; while on the other hand, shrubs planted simultaneously with trees nearly always do well for a long time, certainly until the trees attain great size.

A further variety of effect should always be secured in the exterior boundaries of a shrub group bordering on the lawn, by waving its outlines in long curves so as to make bays and promontories of foliage. Again, variety and grace of line will be augmented by slightly swelling into mounds the space of earth wherein the shrubs are to be planted, and somewhat strange to say, they will survive better, and grow better, when treated in this way. Moreover, the effect on the entire scenery of the rolling surface rising up from the general expanse of the lawn, is always fine; and the practice of cultivating in beds of open soil, instead of allowing the shrubs to grow singly in the turf, is a good one.

In selecting shrubs for grouping on the lawn, it is specially important not only to have vigorous and hardy specimens, but to employ varieties which suit their surroundings, and which are in sympathy with the foliage about them. For instance, on the border of a lane, or in the neighborhood of outlying plantations, one would naturally expect to see such shrubs as Ligustrum Ibota, L. intermedium, and L. Regelianum, the white dogwood, (Cornus florida), and the bushy dogwoods, (C. sericea, C. alternifolia, C. alba), Viburnum dentatum, V. prunifolium, V. tomentosum, common barberry, (Berberis vulgaris), Callicarpa Americana, Clethra alnifolia, Itea Virginica, Lonicera fragrantissima, Lonicera Morrowii, Andromeda arborea, Rhodotypus kerriodes, and Spiraea opulifolia, and the American thorns (Crataegus Crus-galli, C. coccinea and several others); while on the other hand, near the house and in domestic surroundings, other shrubs find satisfactory abiding places: Weigelas, Forythia Fortunei, Altheas, Hydrangeas, California Privet, Philadelphus, Spiraea Thunbergii, Berberis Thunbergii, Syringa or Lilac, Viburnum plicatum, and the beautiful flowering apples and cherries and peaches.

A note of warning should be given about the common practice of clipping the tips of the branches of the shrubs into formal shapes, thus destroying the natural character of the species. Planting trees and shrubs too deep, and using the pruning knife on them too freely and often, are common faults of the horticulture of the present day.—Country Life.

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Among the Apiarists

Bee Talk

We notice once in a while a story circulated in different papers of a meeting house in California where bees have taken possession or are found in a cave in some bluff where the bees have stored tons of honey. These stories, especially the tons of honey part, are only imaginary and hatched in the fertile brain of some would-be enterprising reporter. Bees may be found in such places, sometimes, but as to tons of honey at a place, is all nonsense. We noticed not long since, a writer in a bee journal saying, "that as a usual thing, that articles on bees in a farm paper were not reliable. and there is some truth in what he said, for unless articles on bees are furnished by a practical bee-keeper they are more than likely to be sensational and misleading and sometimes do real mischief, writes J. W. Rouse in Farm and Orchard.

Bees congregate in colonies or swarms, as they are called. When they settle down to business they only have one queen or mother bee to the colony. It may happeu in swarming time that two or more swarms will unite, but when they get down to business,all the queens will be killed but one, and the colony will then depend for population in bees, what this one queen can produce, so if there should be a bushel or more of bees in a swarm they would soon be reduced to what the one queen could produce, as the life of a bee in the working season is short. About forty-five days from batching the queen must be a good layer of eggs in order to keep up a good population of the colony. Most queen bees will only produce eggs to keep up the population or the hive to from 40,000 to 60,000 bees. There are many queens that will not do even so well as mentioned, while in a few cases there are some that will have a population of 75,000 to 80,000 bees to the colony. These last figures would give a large colony of bees—about a half bushel. An average swarm will weight from six to eight pounds. The writer once had a swarm that weighed fifteen pounds, which was the largest we have ever seen except where two oi more swarms united.

Bees at swarming time will weigh one pound to the 4,000 bees. They are then filled with honey; after they empty the honey they will weigh one pound to the 5,000 bees. There is no guess work about this, for it has been tried and tested.

There is just as much difference in queen bees as there are in milk cows—some are good and some are not, and will not pay for their keeping. Some queen bees produce only enough bees to keep the col ony alive and no surplus honey, while others produce surplus honey.

It is almost useless for anyone to try to keep bees in common box hives or log gums When there was a very large flora of wild flowers bees would often store honey in such fixtures, but to meet with much success under present conditions, the bee-keeper must use better methods.

Prospects are very good everywhere where there has been plenty of rain, for a splendid honey flow for next season. There is a great abundance of white clover and other honey producing plants.

We are often asked how to get ants out of bee hives. As they do but very little harm we do not bother about them much. If one can secure their nest where they may be located in anything removable from the hive, they can be taken off some distance from the hive and shaken off. If this is done close to the hive they will go back again. Treat roaches same way as the ants to get them out.

Marketing Honey.

Honey must be packed in shape to please the eye. Established quality has much to do with the price, but the way it looks has much more. In order to get good returns from your product you must watch the markets and know if the honey crop is large or small. Your crop may be large and you may not have the time to sell it to private buyers, writes G. H. Townsend in New England Homestead, and you will have to depend on the commission merchant.

The best method is selling direct to consumers, or if that is impossible, to the grocery stores. If your goods are of the better quality, mark with your name and address. Name your apiary or home and you will find paying results. Home market first, foreign next, should be your axiom at all times.

Just as soon as your honey has been secured and the sections cleaned, they should be put in the selling case, which may be either 12, 24 or 28 pounds. Put in a dark room free from mice, bees and insects. The cases should be of neat appearances and clean, with glass on one side. When it is desirable to keep honey a length of time, it should be kept free from dampness and changes of temperature. If water condenses on the surface oi combs the honey soon sours. For this reason honey should never be stored in cellars that are damp. It is better to keep it upstairs in a dry room.

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Bottled Honey.

There is no question that bottled honey is getting to be more and more popular with the consumer class. The number of articles that have been published on methods of bottling have resulted in popularizing the sale of honey in glass to such an extent that tons and carloads of it are now put up in that form that formerly sold in bulk at very low prices—too low for the bee-keeper to make a fair living, says Gleanings.

If you, dear reader, happen to live in a locality where there is no bottled honey except that which comes from some packing-house, unknown or of doubtful reputation, just try putting out some neat bottled goods of your own, bearing your own label, and see what a nice trade you will have. Your own good reputation, with a personal explanation from yourself, will make the goods move off like hot cakes. But you must make one trip around among the consumers, explaining that it is your honey, how you put it up, and that you guarantee it to be absolutely pure.

The census of 1900 shows that the busy bee contributed to the wealth of the United States as follows: Value of bees, June 1, 1900, $10,186,513; value of honey and wax produced in 1899, $6,664,904. Out of this amount the Missouri bee should be credited with $508,217 value of swarms June 1, and 69,258 pounds of honey produced during 1899.

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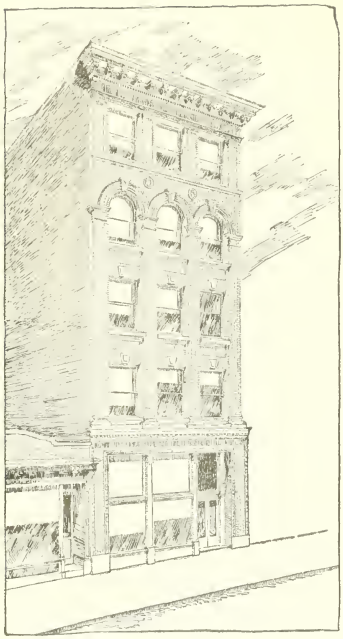

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This building is centrally located, being within a few steps of Market street and just within a half block of the Palace and Grand Hotels. The floors are 26 feet wide by 92 feet in length, and are connected by freight and passenger elevators.

The street floor will be used as main offices and sample room, while on the other floors a good sized stock of Ready Roofing, Building Papers, Paints, etc., will be carried for the San Francisco trade. Out of town orders are shipped direct from the fretory.

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Another Talk with Subscribers

Last month we made a Special Offer to our subscribers, and we wish to repeat the same now. We want to get every one who takes THE PACIFIC TREE AND VINE on a "paid-in-advance" basis. If you are not now behind on your subscription this will not interest you; but if you are delinquent suppose you send us **Fifty Cents for the Pacific Tree and Vine for One Year** in advance and have the old account marked off the books. This is an offer that you cannot afford to fail taking advantage of. Don't think that you are doing us an injustice by settling the old account in this way. We are glad to adjust the matter on this basis, and those who send in their 50 cents at once will be conferring a favor. **Remember that Fifty Cents** is all that is required to settle your subscription account in full and pay in advance for THE PACIFIC TREE AND VINE one year. Send money order, drafts or stamps.

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Queries and Answers

By JOHN ISAAC

T. L., Santa Rosa. — Pruning may be done now or at any time until the sap begins to rise. You had better leave your winter spraying until later on—say about February.

P. M. R., Oroville.—We do not know where you can get the navel orange budded on trifoliata stock. We do know that the nurseries carry this stock You might inquire of them.

Newcomer—Asks whether chickens could not be raised in a young orchard until the trees began to pay. We have answered this question in detail before and so will only say, assuredly yes.

Wm. R. P., Salinas.—The term complete fertilizer means one in which the three essential fertilizing constituents are present, viz., nitrogen, phosphoric acid and potash. Any fertilizer containing these three elements in available proportions is a complete fertilizer.

J. K. McM., Napa, "has some rather dry, hill-side land upon which he wants to grow feed for chickens. It is too dry for corn." Try Egyptian corn. This will mature a crop where it has half a chance, and would probably suit your requirements.

G. P., Sonoma Co.—Guavas are grown extensively in San Diego, where they are used for jelly. The strawberry guava is the favorite. Even if you have a warm section where they might grow we should not advise the planting of them as a money crop. A few for variety or home use may do.

"Tyro," Santa Cruz.—Alfalfa is cut when it is in bloom, and at that time it is in the best condition and contains the most nutriment. In your section you could possibly cut three and probably four crops in a season. In warmer sections four to five crops are cut each season. Alfalfa to do well requires plenty of moisture and a good soil, and is a profitable crop in such locations.

Mrs. M. B., San Jose.—The Asparagus plumosus will probably suit your purpose. This is one of the most elegant and delicate of our climbing plants. It is perfectly hardy, easily grown from seed or division of the roots and has a very fine, fern like foliage. It is extensively used by florists for interior and table decorations.

R. L. M., Sacramento —You can get full information regarding asparagus culture by applying to the Department of Agriculture, Washington, for a copy of a Farmer's Bulletin on that subject. There are portions of your county that are ideal for asparagus growing, and it can, if rightly handled, be made a good paying crop there.

Young Orchardist, Salinas.—It is the safest plan to burn all prunings and deceased wood taken from your trees. Very many injurious insects deposit their eggs on the smaller twigs and branches, while fungus spores also find lodgment on them. By burning them at once danger from further infection from this source is removed. The diseases, too, often come from fungus attacks, and by burning the diseased wood, danger from the spread of the disease is reduced.

W. B., San Francisco.—There is little doubt but that you would make mushroom growing pay, if you understand the business and have suitable conditions. If you do not understand it you must be prepared to make many mistakes and sustain some losses before you succeed. Write to the Department of Agriculture, at Washington, D. C., for a Farmer's Bulletin on mushroom growing. This will give full information, which we are unable to do in a limited space.

Reader, Lompoc.—It is no use to spray with salt, sulphur and lime, for codlin moth The only way to reach this pest is to have some poisonous compound that it will eat when it is first hatched. Paris green has been found the most effective and this should not be used until the little apples begin to form, about the time the blossoms are falling from the trees, and from that time at intervals of about two or three weeks during the season.

G. W. L., Fresno. Asks for a receipt for a good harness oil. Probably the best way would be to purchase it already prepared, as very good harness oil can be had at any harness store, but as some may prefer to make it, we give the formula for a good one, and one which we have used:

Three quarts neatsfoot oil, one pint castor oil, two pounds mutton tallow, ten ounces ivory black, two ounces Prussian blue, eight ounces beeswax, four ounces rosin, two ounces Burgundy pitch. Mix, boil and strain. This is a good oil and preserves the harness.

Reader.—Smudging is unnecessary in deciduous orchards before the trees have bloomed It is when the young fruit is forming that the greatest danger is to be apprehended. The commonest and cheapest method is to make a number of fires through the orchard, and when they are burning well cover them with damp straw. This causes a dense smoke which hangs over the ground treated and prevents the escape of the latent heat

of the earth. Raising the temperature one or two degrees will oftentimes save a crop that would be otherwise lost.

Mrs. L. M., San Jose.—You can get the seed of the nest egg gourd from any seedsman. The plant requires no special cultural treatment. It can be grown in any good soil, and is ornamental as a climber. The fruit, which resembles eggs in size, color and shape, is ornamental when growing, and is useful for nest eggs when ripe. They also make pretty easter eggs, as they can be sawn in halves, filled with some confections and the two halves joined together with a strip of white paper pasted over them. Harmless jokes are sometimes played with them on the the unwary by mixing them with boiled eggs at the breakfast table.

W. P., Napa—Asks for the best treatment for phylloxera. If your vineyard is not too far gone, dig out and burn the infested vines, and replace them with resistant stock, or better still, grow corn on the land for a few years until the phylloxera in the ground are stained out. If the vineyard is generally attacked, and there is no danger of infesting the neighborhood, leave it alone as long as it pays and then root it out. There is no remedy for the phylloxera that it would pay to bother with. It is claimed that bi-sulphide of carbon will kill the pests, but it generally kills the vines, too. There is nothing to be recommended for phylloxera but planting resistant stock.

K. W., Alameda.—Unless you intend to grow sweet potatoes on a large scale it would probably pay you better to buy the plants than to bother with growing them, as they are sold very cheaply. It is not difficult to raise them. Artificial heat should be employed, and this is secured by making an ordinary hot bed out of fresh stable manure, on which about six to eight inches of good loam has been placed. The present is the time for starting plants, which should be ready for setting out as soon as all danger from frost is past. A rich, warm, sandy soil is ideal for the sweet potato, which also needs plenty of hot weather to attain perfection.

L. M. R., Kern county.—Anthrax may be contracted by man from diseased animals, either by inoculation, through cuts or scratches on the hands, or by taking infected air into the lungs. In the latter case the pulmonary form appears. In the case of animal it spreads through the medium of food and water. The virus consists of a minute, rod-like organism, known as "bacillus anthracis," which, on entering the blood, rapidly multiplies, in much the same way as other bacilli. The minute blood vessels become clogged and the bacilli give out a poison destructive to life. Death is very rapid in the case of animals, only a few hours being needed to bring about a fatal result.

Mrs. M. R., Los Angeles.—The Lenstemon is in great favor all over Southern California, where it attains perfection. It may be readily propagated, by seed, division of the roots or slips. The seeds should be planted in a shallow pan filled with a good compact, and well drained. Before planting the seed the soil should be thoroughly soaked. The seed should be thinly sown and thinly covered with fine soil. Cover with glass and keep warm and moist. Cuttings are made from the tops of young shoots from two to four inches long, and should be started in clean river sand. Cuttings root very readily, and this is the favorite way of propagating the plant. When the cuttings have rooted they should be removed to pots and later planted in the open if desired.

Louis R., Sacramento.—Asks what annual it is that has become such a pest in the Sandwich Islands that its importation into this country has been prohibited by law. Our correspondent has in mind the Mongoose, which was introduced into Jamaica and afterwards into Hawaii for the purpose of destroying rats in the sugar cane. In both cases it did this work most effectively, and when the rats were gone it ate the snakes, the frogs, and then ate up all the eggs of ground-nesting birds, and then turned its attention to the chickens. And the Mongoose increased in alarming numbers. It destroyed young pigs, kids, lambs, puppies, kittens, and all the game birds. It was omniverous in its tastes, and turned its attention to various kinds of fruits and vegetables and in a short time it seemed that there would be nothing left on the islands but the Mongoose. Now premiums are being paid for the slaughter of the Mongoose, and the people are wishing they had the rats and Satan had the Mongoose. To avoid like trouble in this country, Congress, in May, 1900, passed a law prohibiting its importation into America, together with the flying foxes, fruit bats, English sparrows, and other birds and animals likely to prove detrimental to agriculture.

R. M. A. A., San Mateo.—Kinnikinic, of which you say you have a large body growing wild on your land, has no commercial value. Its scientific name is arctostaphylos uva-ursi, Linn, belonging to the Ericacceae of Heath family. According to Prof. Piper, the plant is abundant throughout the northern hemisphere, especially in gravelly or sandy soil, frequently matting the ground for considerable areas. In the fall of the year, when the bright red berries are ripe, it is a very attractive plant for decoration. It is an official plant in both the British and American pharmacopoeias. Its medicinal properties are astringent, tonic, diuretic and nephritic. It is used principally for ulceration of the kidneys, bladder and urinary passages. According to Sayre, it is recommended in Cys-

titis, its action on that disease being due to the decomposition of arbutin, one of its constituents, and the formation of hydro-quinone, which is a powerful disinfectant and antiferment. The plant is so abundant that it is probably not profitable to gather it commercially. It is the plant used by the Indians for smoking tobacco under the name of kinnikinic. The plant also goes by the names of "Bears' Grape," "Red Bear Berry," "Fox Berry," "Meal Berry," and "Barren Myrtle."

C. F. S., Morgan Hill.—The twig sent by you from an apple tree is infested with powdery mildew. The best remedy for this is the Bordeaux mixture, the formula for preparing which we have given several times in these columns. Mildew on gooseberries is of the same class, a fungus disease, and the same remedy will be effective. The wash should be applied first before the trees come out in leaf and then at intervals afterwards. The disease is propagated from spores which find lodgment on the twigs and branches of the plant, and as soon as the young buds swell and the leaves come out, these spores spread to the new growth. The object in spraying is to prevent this spread, and to do this it is necessary to reach the spores before they germinate. The remedy therefore is rather preventive than curative, as when the disease manifests itself the damage is done.

A. E. T. Box 630, Fresno, is anxious to get the name of some grower of the Phenomenal strawberry. Will some of our readers who know furnish us this information? The plants are not common in the market and can be obtained from the seedmen in limited quantities only and at prices ranging from 20 to 25 cents each.

W. S., San Mateo.—The California Red Berry, so commonly used here for Christmas decorations and sometimes called California Holly, is not a holly, nor is it even a distant member of the holly family. It is a Photinia, and its scientific name is Photinia arbutifolia. It can readily be grown as a garden shrub and well repays careful cultivation.

Mrs. A. K., San Jose.—The smilax belongs to the asparagus family and requires the same general treatment. To get the best results it should have a moist, warm location, good rich soil, and does best in a shaded or partly shaded location. We should not recommend training it on wire netting, as it does better on strings and is much easier gathered without damage, which could not be done if wires were used.

W. P., Bakersfield.—You can probably get the seed of the Australian salt bush by applying to the State University. It should do well on the land you describe.

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I received on fifty of my birds at the last State Fair held Sept 9th to 14th, 1902. White Crested Black Polish, White Wyandottes, Buff Plymouth Rock, Silver Spangled Hamburgs, Barred Plymouth Rock, Silver Duck Wing Bantams. Eggs, $1.50 per 13; $5.00 per 100. D. D. Briggs, Mgr, 403 North Santa Cruz Avenue, Los Gatos, Cal. P. O. Box 250.

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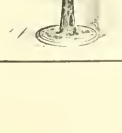

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FEBRUARY, 1903.

READ the special offer to TREE AND VINE subscribers.

SINCE the last issue of the PACIFIC TREE AND VINE the editor has received some hundreds of letters from subscribers expressing their approval of the change to a monthly and offering words of praise for the paper in its new form. Such thoughtfulness on the part of our readers is deeply appreciated, and we wish to extend through this column the thanks that would be offered by personal letter were our well-wishers less in number.

FROM all parts of the State reports reach us that pruning and spraying are well advanced and that the winter work in the orchards is nearly over. These reports, too, are to the effect that with all varieties of fruit the blossom buds are swelling and are unusually thick, and if the unexpected and the unforseen does not happen, we shall have an almost phenomenal fruit crop.

In the industrial progress made by the United States during recent years there has been no more conspicuous feature than the growth of agriculture. The amount of fixed capital invested in agriculture is about $20,000,000,000, or four times that invested in manufactures. More than half of the people of the United States live on farms, and more than a third of all the people engaged in gainful occupations work on farms. In one year the products of American farms have reached an aggregate value of nearly $5,000,000,000.

MOST OF THE subscribers to the PACIFIC TREE AND VINE have taken advantage of our offer in last month's issue, and have paid in the fifty cents that settles the old account and gives them the paper without extra charge for the year nineteen hundred and three. A few, however, have failed to respond, and to these we will say that it is necessary to remit at once if this extraordinary offer is to be taken advantage of. A glance at this issue will show it to be even better than the last; it will be constantly improved throughout the year, and you cannot afford to let go by the chance of clearing up the back account and procuring the paper for the year just entered upon. It is only the small matter of sending fifty cents. Do you not think it worth while to attend to it?

THERE IS A strong movement in favor of the protection of beneficial birds in progress in many of the States, and it is already having good effect. If the farmers and fruit-growers realized how much they owe to the labors of their bird friends in destroying injurious insects, there would be in every State a law in their favor stronger than any game law and every agriculturist would constitute himself a committee of one to enforce it

THERE IS no need to urge upon the dairyman the advantage of pig raising Cows and pigs are the natural complements of each other under our present system. With the establishment of central creameries, the manufacture of butter on a large scale, and the increased demand for milk, the farmer who formerly kept a few cows now finds it profitable to keep many, and with the new process of skimming by separators he is left with a large quantity of sweet skim milk. Pigs and shoats will thrive on this as on no other class of food, and if in conjunction with both the farmer has a good alfalfa field he has a sure and certain means of income that even hard times cannot much effect.

DECEMBER was an unusually cold month in all parts of the State, and January has not so far been a warm one. Killing frosts have not been reported from any sections, and while this is true our fruit growers have cause to feel thankful for a cool December and January. Very frequently January is a warm month; so warm that the sap commences to flow in the trees, fruit buds swell, and many trees are forced into blossom, only to be caught by later frosts, and a large portion, and sometimes the whole crop of fruit on such trees is destroyed. In other cases the sap is

started in circulation by the warm weather, only to be chilled by the later cold, and sour sap results, doing very much damage in the orchard and often killing whole blocks of trees. It is for these reasons that a cool January is a blessing to the orchardist, as it usually insures a good crop of fruit and healthy trees.

WE HAVE in the past season received many complaints of the inefficiency of sulphur as a check on the red spider, and in one case, having occasion to investigate, found that a cheap grade of ground sulphur had been used. There is little doubt that sublimed sulphur properly used will destroy the red spider. This remedy has been used for years in this state, and where proper sulphur has been obtained has always given satisfaction. But very much of the sulphur put upon the market for sale is either ground or mixed, and it is practically a waste of both time and money to apply this. Let all fruit growers who use sulphur, either in the vineyard or the orchard, insist upon having sublimed sulphur, and there is little question but that they will obtain satisfactory results from its use.

The past year has been a good one in all lines of agriculture and horticulture, and the new one promises even better things. Prices in all lines are fair and advancing. The season has opened very well. Rains have been plentiful, coming at the proper time and at good intervals; we have had no severe or injurious weather. A visit to our orchards discloses the trees well laden with fruit buds which promise well for next summer, while grain is well advanced and feed plentiful. It is said that you should never erect a monument to a man until he is dead, so perhaps we should not hope for too much from the coming season; but so far the outlook is good, and unless the unexpected happens, it is safe to predict a good season.

The favorable season which we have so far had, coupled with the active demand for wheat, has started our wheat farmers at active work all over the State; and at the present writing, the prospects favor the largest grain acreage we have had in many years. Very many of the wheat ranchers in the upper San Joaquin valley have suffered from short crops for several years past and there has been a decided shortage in the winter precipitation there, which the present season promises to remedy. Acting upon the hypothesis that it is a long lane that has no turning, and that so many dry seasons must end in a good one at last, our farmers are preparing for a good year and are sowing a largely increased area.

Good fruit pays the grower. This fact is becoming so well impressed upon all orchardists that every effort is now being made to produce the best. Time was when a tree was stuck in the ground and left to its fate, and it produced a fruit which we thought unequalled in our boyhood, but which today would not be worth picking Fruit production has become a science, and in the past few years in California, almost one of the exact sciences, for as the market demands only the best, so our growers vie with each other to produce only the best. To accomplish this care in selection, the adaptation of soil to varieties, careful cultivation, and the persistent fighting of insect pests and fungus diseases have to be exercised. Many young orchardists are now preparing to enter into active life, and it is fortunate for them that they have the experience of the past to guide them, and more fortunate if they have the wisdom to investigate and profit by this experience.

It is gratifying to note that the committee of fifteen, on the labor question, appointed at the late Fruit Growers Convention, have already commenced earnest work. The committee is composed of prominent fruit men from all sections of the State, and they realize fully the necessity of doing something, and doing it soon, which shall relieve the stringency in the labor market. Most of them have learned by sad experience during the past two seasons that there is a crying need for reliable labor within the range of the producer's means. The committee have held their first meeting at Paso Robles, as being the most central point in the State and within easy reach of the members. At this meeting sub-committees were appointed, whose duty it will be to organize sub-organizations all over the State, these sub-organizations to look out for work, and place applicants where their labor is needed. Every means will be resorted to to impress upon the Eastern farm laborer that there is work in abundance in California at good wages, compared with what is paid in the East, and that he can come here and be sure of steady employment and be well taken care of while he works here. It is to be hoped that the efforts of the committee will produce good results, for our fruit farmers have suffered heavy losses from shortage of labor during the past two years, which they do not want to face again.

E. A. Bryan, President of the Washington Agricultural College, speaking of the relative value of potatoes as hog food, says:

"One hundred pounds of potatoes cannot be turned into $1 worth of meat, even at the present high price of hogs. Only about one-fifth or one-sixth the amount of meat can be gotten out of the same weight of wheat or barley ground. The cooking of the potatoes perhaps helps the feed, but the cooking of the wheat does not increase its feeding value, as has been repeatedly demonstrated. The grinding of the wheat does. Potatoes can be fed as part of ration at from 20 to 25 cents per hundred, but cannot be profitably fed at all at $1 per hundred, unless the price of hogs should increase abnormally."

A Story for the Young Folks

How the Tories Broke Up the Meeting

For the third time little Ruth Holley stepped out on the broad flat stone that served as a door-step, and shading her eyes with her hand looked eagerly down the road.

"Oh, dear!" she sighed, glancing at the long slanting shadows; "it's almost supper-time and they haven't come, and Sister Molly is never late."

Then she turned and passed through the narrow entry into the kitchen, where her mother was bending over a big iron pot which hung from the crane in the wide fire-place.

"Well, Daughter, any signs of 'em yet?"

"No, Mother," answered Ruth, almost ready to cry. "Perhaps Gray Duke has run away, or some of the dreadful Tories have stopped them; and if anything should happen to Geordie or the twins, I don't know what I should do."

Mrs. Holley raked the embers forward and put a fresh log on the fire. "I wouldn't borrow any trouble, Daughter," she said quietly; "real trouble comes thick and fast enough into this dark days without any need of borrowing more."

The kitchen door opened and a tall, gray-haired man entered.

"I've put the milk in the pantry, Mother. Where are Molly and the children? Haven't they come?"

Mrs. Holley shook her head.

"Ruth is worrying, Father, for fear that they have been caught up by Tories or that Gray Duke has run away with them."

The farmer threw back his head and laughed.

"No fear of that, little girl! Molly Pidgin is a born horsewoman and Duke may be fiery and unmanageable enough with strangers, but he's like a lamb with Molly. And as for being caught up by the Tories,—why, I'd just like to see 'em do it, that's all! There's isn't a horse in these parts that can keep within sight of Duke's heels. I knew his value well when I gave him to Molly for a wedding gift. And they are well matched for spirit!"

"I wish Molly had less spirit, Father, for then when Edward went away, she would have come up here to stay with us," returned Mrs. Holley. "Middlesex is no place for her; it's a perfect nest of Tories! But we had hard work to get her to spend even this week with us!"

"Well, I suppose she thought some of the Tories would run off the cattle or ransack the house while she was away. We are passing through dark days—dark days, Mother! It's bad enough to have to fight an open foe, but when it comes to having neighbors who are on the watch for every chance to plunder you and to give you over to the Red-coats, it's almost more than flesh and blood can stand!"

It was the summer of 1781, the darkest and most trying period of the Revolution. The campaign of 1779 had proved a failure. The British were everywhere successful, and the American army had done almost nothing toward bringing the war to a close. And 1780 was a still more discouraging year. The winter was one of the coldest ever known, and the suffering of the Continental troops in their winter quarters at Morristown were terrible. Early in 1781, several hundred of the soldiers revolted and were only kept by the point of the bayonet from going home, so that this year, too, opened most disastrously. The dwellers on the Connecticut coast lived in constant fear of the British, who occupied New York City and Long Island, and frequently crossed the Sound at night in boats, to plunder the inhabitants and carry them away captives. Norwalk, Middlesex (now Darien), and Stamford were particularly hated by the English on account of the patriotism of their three ministers, and the Red-coats had been planning for a long time some way of punishing the Rev. Mr. Mather, whose earnest teachings served to keep up the almost failing courage of the people of Middlesex.

Mrs. Holley swung the crane further over the fire, and then helped Ruth to set the table with the dark blue china and the large pewter platters, which had been scoured until they shone like silver.

"Hark! What is that?" said the farmer, going to the door. But Mrs. Holley and Ruth were there before him, just in time to see a powerful gray horse dash up to the door and stop obediently at the decided 'Whoa!" of his mistress, a rosy-cheeked, bright-eyed young woman. Behind her, on the pillion, and securely tied to her waist, was four-year-old Geordie, while in front, encircled by her arms, sat the baby twins, Ben and Desire, as like as two peas. In a moment, Geordie was unfastened and Ruth was smothering him with kisses, while Mrs. Holley looked very proud with a twin on either arm.

"Well, Molly," said her father, looking at her admiringly as she sprang lightly to the ground, "you are as spry as ever. We had begun to worry about you. What made you so late?"

"I was waiting for dispatches from Edward, and they came just before I left. They've had a terrible winter, father," and the tears gathered in Molly's eyes. "Our brave men have been without shoes and had only miserable rags for clothing, and hundreds of them have died from hunger and cold. At times they have had neither bread nor meat in the camp, and the Continental money lost value so that it took four months' pay of a private to buy a bushel of wheat! Edward says if it had not been for the great

heart and courage of Washington they would have given up in utter despair. But things are looking brighter now. Congress has sent them money, and General Greene has had some splendid victories in the South; and Edward says there are still more to follow."

"You don't say so!" cried the farmer in a ringing voice, and his bent form straightened, and his blue eyes flashed. "Now, may the Lord be praised! How many times have I told you, Mother, that we'd certainly win in the end."

"But these victories cost so, Father!" said Molly, throwing her arm over the horse's neck and hiding her face against his glossy mane. "O Duke, Duke, when will your master come back to us?"

Duke had been champing his bit uneasily, but at the sound of his mistress' voice he became instantly quiet. He turned his full, bright eye on her and lowered his head until his nose rubbed against her hand.

"Just look at the critter, Mother!" cried Farmer Holley. "I think he actually knows what the girl is saying."

"Edward wrote that there was a great scarcity of hores in the army, and asked me, in case Duke was needed for Washington, if I would be willing to give him up."

"It would be rather hard to give up Duke. Eh, Molly, girl?"

"I would even part with him, if necessary. I will do anything and everything that I can, for the sake of our country," said Molly. "And dear old Duke is fit to carry even so good and great a man as Washington."

In a few moments the family was seated at the table, and opening the big, leather-bound Bible, Farmer Holley read a short chapter, followed by the simple evening prayer.

The next morning, after breakfast was cleared away, Molly said to her father:

"I believe I'll ride down to Middlesex church. I don't like to miss one of Parson Mather's sermons. They are a great comfort to me. And I can see, too, whether the house is all right. I can get there in time for the afternoon service, and I'll take Ruth with me for company."

Shortly before noon, Duke was brought to the door, and so impatient was he, that he could hardly wait for Molly and Ruth to mount. Off they went at a rapid pace, through the gate and down the old post-road, and Canaan Parish was soon left far behind.

After a few pats and a little coaxing, Duke settled down to a sober trot. A ride of six miles brought them to Molly's house, and a glance told them that all was safe. Then they came in sight of the wooden meeting-house, with its stiff little belfry. On one side was a dense swamp bordering the road. As they passed it, Ruth glanced carelessly back, and her heart gave a great thump, as she thought she saw a bit of red color and a glitter as of sun-shine on burnished steel. She looked again, but there was nothing but an unbroken wall of green leaves, so thick was the growth of bushes and tangled vines. Her first impulse was to tell Molly. Then she laughed at her foolish fears. "I'm but a silly girl," she thought, "it was all imagination."

The bell was still ringing, and Molly went behind the church, where the horses were fastened and tied Duke to a tree. Then she took Ruth by the hand, crossed the porch, passed through the little entry and walked up the aisle to a square, high-backed pew

The young girl heard but little of the service. She could not get that bit of red color and the glitter in the swamp out of her mind. The windows were open, and she found herself listening intently for every little sound, but she heard nothing except the singing of birds and the rustling of the leaves, as the warm south wind gently stirred the branches of the trees. But when Mr. Mather, from his high pulpit perched beneath the great sounding-board, began to read the hymn, suddenly the words died away on his lips. He closed his book and remained motionless, with his eyes riveted on the open door.

"Surrender or die!" called a loud voice. "Escape is impossible, for both doors are guarded."

Three or four young men climbed out of the windows, but the shots fired after them warned others of the dangers of flight. With clanking arms a number of British soldiers, led by some of the Middlesex Tories, rudely entered the church, and proceeded to plunder the congregation. Silver watches were taken, silver buckles were torn from knee breeches and shoes, and ear-rings were roughly snatched from women's ears.

Molly started up indignant, as a trooper pointed to the gold beads on her neck. "I'll thank ye for those geegaws, ma'am," said he.

"Softly, softly, Mistress Pidgin," exclaimed a neighbor; "resistance is of no use." And Molly gave up the necklace.

Then she whispered to Ruth: "Keep close by me, Little Sister! Do just as I do—keep getting near the door—a step at a time—without attracting attention. If I can only save Duke!" The British tied the men, two by two, and, amid the soldiers' jeers and hooting, the gray-haired minister was dragged from the pulpit.

"Let the rebel parson lead the march," cried one; "and hark ye, sirrah, step lively, or you'll feel the prick of my bayonet—we must make haste, or the whole town will be after us," he added in a lower tone, addressing one of his comrades.

In the meantime, Molly and Ruth had reached the door without being seen, and Mistress Pidgin peeped out cautiously. The guard had left his post to lead the horses to the front of the church. Most of them had been taken, but Duke was still standing under the tree.

The two sisters darted down the steps, climbed upon a stone fence, untied Duke and mounted, but had gone only a few yards when they encountered two men.

"Stop!" cried one of them, seiz-

ing the bridle Molly bent over Duke, and patted him gently on the neck. Then she raised her whip and brought it down with all her might on his flank. He reared wildly, and with a furious plunge that would have unseated a less skillful rider than Molly, he freed himself from his captor, dashed across the green, and, with ears laid flat against his neck and his tail streaming out like a white banner, he darted like an arrow up the road.

Ruth was partly thrown from the pillion, but Molly's strong arm was around her, and her calm voice sounded re-assuringly :

"Pull yourself up to the pillion ! Never fear ! I can hold you;" and even in that mad flight the little girl was able to draw herself up to a secure position As they reached the top of a long hill, Molly drew rein and looked back. A few mounted men had started in pursuit but Duke was too fleet for them, and they had turned back.

"O, my brave Duke," said Molly; "may you always carry your rider as swiftly from danger as you have carried us today!"

Duke bore them swiftly up the old road to Canaan Parish, and as soon as they reached home safely, the alarm was given by the ringing of bells and the firing of guns and several of the men started at once for Middlesex. But they were too late ! The prisoners had been carried across the Sound, and from thence they were sent to the prison-ships in New York Bay, where some of them languished and died, and others, among them Parson Mather, after a long delay were returned to their homes.

Meantime, Duke was sent to the headquarters of the Continental Army, and it was the proudest day of Molly's life when, soon after the declaration of peace, she stood on a balcony with Edward and the children beside her, and heard the thunder of artillery, the ringing of bells, and the wild cheers of the people. For, as she looked up the street she saw, amid the waving of flags and the fluttering of handkerchiefs, passing under the triumphal arch, with proudly arched neck and quivering nostrils, a magnificent gray horse, bearing on his back that martial figure so well known and loved—the noble Washington.

Household Columns

Very beautiful curtains may be made of ecru net, on which is applied borders of Point de Arabe lace of the same color.

A new idea is to have a linen case for holding handsome household linen. The case has embroidered on it the word, "sheets," "pillow cases," etc. These cases have ribbon ties.

Hot alum water is the best insect destroyer known. Put the alum into hot water, and let it boil until it is dissolved; then apply the solution with a brush to all cracks, closets, bedsteads, and other places where any insects may be found.

To preserve a broom always hang it by the little device attached to the handle, or in the absence of this tack on a loop in a convenient place, but in any event do not let the straws stand on the floor. A good plan, when through sweeping, is to soak the broom a few moments in warm soapsuds. Shake it thoroughly and hang it up immediately. A broom treated this way will last twice the time of one standing on the floor. When the straws become bent a broom is very soon rendered useless

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The airing of a sick-room in winter need not be difficult. Throw something lightly over the patient (large blankets are best), sheltering even the head and face; and, in serious cases, set a screen along the edge of the bed. Immediately open all the windows, top and bottom. If they are numerous, and it is blowing hard, that may be sufficient, and you can go around and close them; remove the blankets by degrees, and consider your task done.

If, however, the wind does not rush in freely be ready—one, two, or even three of you—with towels and stout fans, and hurriedly beat out the air from the corners and from under beds, towards the windows, avoiding, so far as possible, fanning the patient, which might prove harmful.

A towel grasped by two corners and sharply flapped (as if shaking dust out of it), downward near the floor, upward near the ceiling, brings about a very speedy change of air. In the contracted spaces, use a fan Two or three minutes will do the work, and you can shut up. Then promptly begin to draw off the extra cover. Study the sudden coldness of the room and leave enough on for a time, but do not cause over-heating.

That is one evil more easily prevented in a hasty than in a gradual airing, another being a heavy, sluggish chilling of the sick person; another, a too lasting cooling of the solid wood-work, walls, etc.

Finally, it may seem worth while to fan again a little, close to the heater, so as to spread the warmth more rapidly.

If it is bedtime, do not adjust the ventilation for the night until the temperature rises somewhat, and probably you should not remove much of the added bedclothes until the room feels warm.

All is plain sailing, except the altering of the cover, which requires care.

This process, modified for ordinary use, would give a more healthy night's rest to a child sleeping where people have been sitting during the evening.

Something New

Scientific Body Building is a system of scientific Physiological movements which develops the human structure and eradicates disease. It strengthens the entire nervous system It brings perfect health by natural means. Scientific Body Building prevents and cures paralysis, obesity, spinal trouble, nervous prostration, rheumatism, gout, indigestion, constipation, insomnia, kidney and liver troubles. No charge for diagnosing. Mrs. Tully, 45 North First street, Theatre bldg., San Jose.

Woman's Realm

A famous statesman on being asked what he considered the greatest type of beauty in woman, replied: "The woman who is beautiful and does not know it, and the homely woman who by her intelligence and graceful bearing makes you forget it."

Many huge silk bags are carried, some of which, with their superbly worked silk and brilliant colors, would make the plainest toilets gay. The newest models in these are in chatelaine design, with handsome gilt and silver trimmings, often gemset. The ostensible purpose of the bag is to hold the libretto, fan, handkerchief, glasses and smelling salts The incidental object is distinctly beautifying.

In a case before a Philadelphia court in which a popular actress had to appear as a witness, the judge hesitated about asking the lady, as he was in duty bound to do, what was her age. Evidently he considered that such a question, put to such a witness would be a direct incitement to perjury. The way in which he got out of the difficulty was ingenious, although decidedly irregular. He asked, before she was sworn, "How old are you, madam?" After a little hesitation the lady owned to being 29 years of age. "And now that you have told the court your age," continued the gallant judge, "you swear to tell the truth, the whole truth, and nothing but the truth?"

In France there are 15,319 women employed as gatekeepers at the railroad crossings. They get very small pay, but the railroads provide each one with a house and a small garden patch rent free. These women work every day in the year. They may not leave their posts for a day off, even on Sundays and holidays, and their working days are from fifteen to eighteen hours long. Five thousand two hundred and seventy-five of these women earn not more than $2.90 a month; 7,700 receive from that sum up to $4.80; 1,680 get from $4.82 to $7.72 and 601 from $9.91 to $10.61. Only sixty women get higher wages than this, and none gets more than $31.84 a month.

News comes from St. Petersburg that the minister of agriculture has decided to establish an agricultural college to which none but women shall be admitted as students. Those who know the minister's views in regard to the proposed college say that there will be no institution like it in the world. His object, it is said, is not to teach women practical farming, but to enable them to acquire a thorough knowledge of agriculture, so that those among them who desire may eventually become either teachers in the numerous agricultural schools in Russia or overseers of imperial or private estates. Only those who have graduated from the ordinary schools will be admitted as students, and at the end of the college course a rigorous examination will be held and diplomas will be awarded to those who deserve them. Women who obtain such diplomas will be entitled to all the privileges that are accorded to men who graduate from the other agricultural colleges. Finally, any student who desires to take up a special study at the college, such as poultry keeping or dairy farming, may do so.

Literature has handed down no tales in Japan better loved than those which embody the tenderness of women, their charms are sung in the brightest verses, and in the exquisite art before which the world bows woman has furnished chief inspiration. Of the sovereigns of Japan nine have been women, one of them, Jingu, the conqueror of Korea, having been deified. Images of Kwannon, Goddess of Mercy, draws the prayers of the people all over the land; and the Sun Goddess, the chief deity of Japan mythology, symbolized in the mirror that occupies central place in every Shinto temple, compels the worship of all followers of that faith, including the imperial household and the mikado himself. In the eleventh century, when it was considered learned for men to devote themselves to Chinese, literature in the Japanese language had women as its chief exponents. Among the fruits of that period was "Genji Monogatzari," one of the most celebrated classics in the language, and the many other works then produced by women contributed not a little to confirm Japanese as the literary language of this people.

The Division of Entomology of the Agricultural Department at Washington, D. C., has appointed Miss Henrietta Aiken Kelly, of Charleston, S. C., as special field agent of the United States Government to establish silk culture in this country on a scientific basis. Miss Kelly will prosecute investigations in all parts of the United States where the white mulberry may be successfully grown, and will compile two monographs for the government, one on the subject of silk worm culture and the other on mulberry growth. Miss Kelly is wealthy and is noted for her philanthropy. She has been interested for years in the possibilities of silk culture in the United States as an industry in which much idle labor in all part of the country could be employed. She has recently completed the first scientific culture of silk at her Charleston home, having imported silk worm seed from the Royal Observatory at Padua, Italy, from which she incubated more than forty thousand silk worms. It was her success in this venture that led to her receiving her appointment from the government During the past year over fifty thousand dollars worth of silk was imported from foreign countries, and Miss Kelly firmly believes that the United States will soon produce an equal amount on its own account.

Pacific Coast Poultry Shows and News Items

By J. C. WILLIAMS

The 1902–3 Poultry Show season is about over, so far as the Pacific Coast is concerned. The shows which have been held up to this date have been by far the most successful exhibitions in the history of poultry shows in the west. Beginning with the Sacramento State Fair in September, where an entry of 1135 was recorded, this was the largest and best poultry display ever held in connection with the State Fair, not only a step forward as to the magnitude of the display, but the best quality ever seen at Sacramento.

Oakland came next, with an entry of 1325 birds, which was the largest entry ever seen at an Oakland show. The "Fifth Annual" Oakland Show which was held the first week in December, cooped birds from all parts of the State and as from as far north as Portland, Oregon. Southern California responded with a generous lot of birds, and never before has such high quality been seen in a Western Show room. Judge Shellabarger of West Liberty, Iowa, the Eastern Judge engaged, expressed great surprise when he found what high-class birds were to be seen out here, the whole display being of such uniformly splendid quality. Judge Berrar of San Jose, who has judged at Oakland five years in su cession, remarked that the improvement in many classes was most marked; in fact, it was a matter of general comment that never has a poultry association on the Pacific Coast been able to gather up such a collection of birds of such a high degree of perfection. All this goes to show that the interest in fancy poultry is decidedly on the increase.

Immediately following the Oakland Show was the Fresno Show, which was right in line with a display of birds in larger numbers and of better quality than any previous show held by the Fresno Association. The Fresno Show was not merely a local affair, but was made up of birds from many sections of the State, and quite a number which had just been through the Oakland Show.

A show was scheduled for Riverside, Cal., the week following the Fresno Show, but there was a hitch in the proceedings which prevented the Riverside Show coming off.

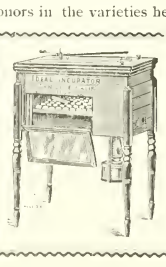
Los Angeles had also advertised a show for January, but it seems the southern part of the State has been extremely unfortuate for some reason, for the Los Angeles function, too, failed to materialize, although much of the preliminiary work had been done. We are informed that the management of the Los Angeles and Riverside associations having neglected to make proper provision for suitable halls in which to hold their shows, prevented their carrying out their shows as advertised, as it was impossible to secure quarters when looked for the eleventh hour.

The show at Portland, Oregon, held in December, was a very successful show indeed, and also contained birds from many different sections of the country. One California breeder took up a fine string, and won the lion's share of the honors in the varieties he showed, Judge Shellabarger also officiating there as Judge.

The Roseburg, Ore., Show, immediately following Portland, was one of the best shows of the season, although not one of the largest, being an entry of four or five hundred. L. N. Cobbledick, president of the Oakland Poultry Association, officiated as Judge, and the Oregon fanciers were so pleased with his work that they heartily expressed themselves as being anxious that he return next year.

By the time this issue reaches its readers the San Diego Show will be an event of the past. We predict for the management of this show a most successful exhibition, for they are deserving of great credit. They are not only energetic fanciers, but have gone about their work in a businesslike way, and will have the distinguished honor of holding the only poultry show in Southern California this season. We do not believe they will allow any obstacle to prevent their holding one of the best shows ever held in Southern California. All success to San Diego.

The show season of 1903–4 is bound to be an eventful one, for in the past few months there has been an influx of new fanciers, and a revival of old ones, so it is a forgone conclusion that the result will be astonishing, and surprisingly successful.



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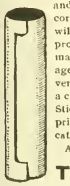

and cut it into strips according to this design — it will fit about your trees, protecting them from animals and other injurious agents. Anyone can do it; very inexpensive. Write for a circular about our P. & B. Sticky Paint — better than printers' ink — never dries, catches the parasites.

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A Few Old Spurs

Lice breed easily and quickly in a filthy house or brooder.

The best ventilated poultry house is an oak tree, or in fact, any tree.

The farmer should convert the waste into cash via the hen route.

To get the best results, hens should have plenty of meat and ground bone.

Repeated tests show that animal food must form a portion of the ration if we want results.

One-half the labor required to earn fifty dollars tilling some crop will produce that sum for the farmer if bestowed upon his flock of fowls.

Homers, Homers, The Kind That Home

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Stock birds for sale at all times at reasonable prices.

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Barred Plymouth Rocks...

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BROWN AND WHITE LEGHORNS.

An extra nice lot of Cockerels, White and Brown, at $2.50 each. One pen of Golden Wyandottes, $10. One Cock and 6 Hens Silver Wyandottes, $12. Eggs in season.

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Fine young stock now ready for shipment at reasonable prices. If you want HEAVY LAYERS you should have some of our BROWN LEGHORNS. Let us furnish you a trio or breeding pen. Get the best, and they will pay for themselves in a short time. LARGE BIRDS and layers of LARGE EGGS. Send for our circular. It's free.

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Winners of first prizes at State Fair and Oakland Poultry Show.

Buff White Black and Partridge Cochins; Buff and White P. Rocks; Light Brahmas, White and Black Langshans, White Wyandottes, White and Buff Leghorns, R. C. Brown and White Leghorns, Black and White Minorcas; Black and White and Buff Cochin and R. C. Black Bantams Bronze Turkeys Toulouse and Emden Geese. Pekin Ducks. Pea Fowls and Pearl Guineas EGGS FOR HATCHING. Write for prices and particulars We guarantee satisfaction in all cases

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Unequaled Full-Feathered Buff Cochins and S. C. White Leghorns

Are bred for exhibition and utility. I do not show them for competition, but I sell them and they win everywhere. They need no further recommendation

EGGS, Cochin, $5.00 per set, 3 settings $10.00; Leghorn $3.00 per set, $5.00 per 15

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Begin Now to feed for Eggs and you will have them to sell when others are just realizing that

EMERY'S POULTRY FOODS

did it. Ask your dealer for Emery's Poultry Foods. All commission men handle them.

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Indiana and 24th Streets San Francisco

An egg contains sixty-four parts water. The necessity for pure water is very apparent.

Remember that hens teeth are scarce and see to it that they have an ample supply of grit.

Give the hens the same variety of food they would find on a large range, or as near as you can do so.

Disease, egg-eating, feather pulling and lice are things which reduce the profits in the poultry business.

Never have a cock bird with laying hens unless you want eggs for setting. Experiments have proven that hens lay better and your feed bill is reduced.

It pays to have pure bred fowls if are raising fancy stock, but if you just want to make money the cross-br d fowls get results.

Never use an incubator until you have succeeded in raising 500 chicks in one season by the good old hen method.

When you select to kill, always pick the poorest. Do not kill the thrifty hens that work and hunt and sing all day. These are the ones that have the bright red comb and wattles. Kill the lazy fat hen.

Feed a warm mash in the morning, composed of corn meal, middlings and alfalfa. The latter should form one-half the bulk. Cut the alfalfa fine, steam over night and add to meal and mids while the mash is warm.

Can you pick out the layers from a flock of chicks? You can; but you will never do it if you lie in bed until six o'clock in the morning. Get out early and notice which chicks come out first in the morning to hunt grubs. These will make the best layers, as the active hen is the laying hen

It is just as well to feed mash in the morning and wheat enough to last all day at the same time. This is the plan followed by the Petaluma poulterers who make money and not slaves of themselves by feeding from 3 to 8 times daily and standing around twenty minutes after each feed to remove any food which has not been consumed.

Oyster shell is not grit, and is a very poor substitute for grit Oyster shell in small quantities is dissolved by the acid juices of the crop, and supply lime for the phosphates needed for nourishing bones, feathers, claws and egg shells, but for grinding grain it is a failure.

The two most common diseases, roup and cholera, do not often occur when the conditions are right; some of the best poultry authorities are now telling us that the first cause of roup is not a cold, but the real cause is further back; that it is a weakness in the constitution of the fowl; that it is hereditary, and that we must depend upon well balanced rations, comfortable quarters, pure water, and never inbreeding, to prevent it, and when these conditions are complied with, there are few diseases that the poultryman needs to fear.

During cold weather see that all water pans are empty at night so that fowls will not have a chance to fill their crop with cold water long before you are up in the morning. Then give them water and a warm mash, and watch the results. The effects of warm mash are entirely lost if the fowls have access to cold water.

Incubators and breeders are the greatest drawbacks to the poultry business. Nearly everyone who enters the poultry ranks believes it necessary to purchase machinery and assume the old hen responsibility. Let the old hen do the work until you have had some experience. By this plan you will raise chicks and save the cost of a lot of incubators, brooders and brooder houses, which in the majority of cases you will want to sell for about 25 cents on the dollar after one season. If at all convenient, set at least two hens at the same time. Three or four would be better, so that when unfertile eggs are removed, the fertile ones can be placed under one or more of the setting hens and the others supplied with fresh eggs. As soon as the chicks are hatched, guard their comfort with exceeding care. Keep them with the hen indoors, letting them out late in the morning only on warm days, and take them in early in the evening when it gets cold.

FAIR OAKS DUCK FARM

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Pekins, Aylesburys, Muscovies, Rouens, Black Cayugas, Gray Calls, Indian Runners and Blue Swedish Ducks. At State Fair, 1902, won Sweepstakes and 24 Premium Awards. At the Oakland Poultry Show, 1902, won 46 prizes out of 48 entries. At Roseburg, Oregon, Dec. 1902, won 6 first prizes, on 6 entries. Stock and eggs for sale.

JAMES HAGUE, Prop.

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BLACK MINORCAS

A Grand Specialty.

I have one of the largest and finest collections of **BLACK MINORCAS** on the Pacific Coast. I have bred them especially for *Egg Production*, combined with Standard qualities. Have over 1,000 birds but do not care to sell any hens this season. Have some **FINE COCKERELS** for sale at very reasonable prices. Eggs from *finest hens*, headed by pure Northup Males, at $2 per setting of 13. From other yards of good thoroughbred stock, Incubator lots of eggs at $5 per 100, or 75c for 13.

Cedar Cottage Poultry Farm Mrs. A. H. Ladd Modesto, Cal.

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THREE GRAND VARIETIES

The Noble Light Brahmas—We think we have the finest collection Light Brahmas on the coast

The Money-Making White Wyandottes—We have bred White Wyandottes, in line, for 6 years. Our show record this past season in the hottest of competition is full of FIRSTS AND SPECIALS.

The Popular Barred Plymouth Rocks—Our Barred Plymouth Rocks are KNOWN AS WINNERS at all the principal shows in California FOR FIVE YEARS PAST. We have this season a grand lot of birds

Write for what you want of above—except White Wyandottes, no more for sale at present. Address—

F. FORBES, Napa, Cal.

Appliances for the Poultry Plant

By A. WARREN ROBINSON

The poultryman should continuously plan to save all unnecessary labor in caring for his flock, making his head save his heels, according to an old saying. If one has a flock numbering not more than one hundred hens even much travelling, hither and yon, will be necessary each day.

There are numerous labor-saving appliances one may make use of, and often it is economy to wisely invest in accessories that will be found very helpful. It will ever be found best to have everything about the poultry plant as handy as possibly.

There are countless articles which might be enumerated, but, for the present, the attention of the reader is directed to a very handy cart that almost anyone who can handle the most common tools can make. This is for one horse, but will be found very convenient on the largest farm. More especially is it adapted to the owners of small places where but one horse is kept.

A few months ago the writer constructed such a vehicle, which has been found to be the handiest article on the farm. Requisition was made on an old farm wagon, which had, for a long time, been cast aside, and one of the iron axles, one and a half inches in diameter, was taken. Then two cast off gang plow wheels were obtained, after the aforesaid axles were swedged down to proper size, and were placed thereon.

The frame was made of three by four Oregon pine seven feet long and the width of the axle. This was set up on two short blocks, four inches above the axle, one at either side, clamped to the axle with substantial iron yokes.

A flooring of redwood boards was nailed to the frame, which was fastened at its center to the axle. Shafts were made of pine scantling dressed down to the proper size and shape. These were bolted to the frame. Side and end boards, one foot high, were made and fastened to the standards which fitted into the stake irons, three on a side.

With this cart, manure, gravel, brush from the orchard and the hundred and one articles that have to be handled on the farm, can be easily transported from place to place. One beauty about the handling of any material is that it has to be lifted but a very short distance from the ground; only two feet, at the most. If one wishes to haul straw or hay, a light rack can be easily and cheaply constructed, Use one by two pine, dressed, fastened to stakes of any desired height. You will be surprised how handily these materials can be handled and how expeditiously.

The cost of this home-made cart is trifling. Its utility, its convenience, will gratify any person who will take the small effort requisite to construct it. Make one, and you will wish you had caught on to the idea long ago.

CARRINGTON'S
WHITE LEGHORNS
Win Blue Ribbons wherever shown.
Some extra fine, full grown Cockerels at $5.00 a piece. Eggs from Prize Winners, $3.00 and $2.00 per dozen, $10.00 per 100. Eggs from well bred stock $5.00 per 100.
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BRIGGS POULTRY FARM
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See what is to follow.
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Wanted: Cockerels
Three to 5 months old, *any breed*
Will purchase any number up to 1000 birds. Address,
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White Minorcas
White Leghorns
Eggs for Setting
Very best MEAT and BLOOD MEALS. It will pay you to get my prices.
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Barred Plymouth Rocks
Winners of the Mayor's Silver Cup at the Oakland Show, for the best ten birds.
Royal Buff Cochin
Superb cockerels for sale.
Choice stock for sale at very reasonable prices.
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Berkeley Poultry Yards
White Plymouth Rocks Exclusively
I make a business of breeding these beautiful and useful birds. My birds won 1st and 2d prize on breeding pens; 1st on pullets and 4th on hens. My birds are the highest scoring birds on the coast. 1st pen scored from 93½ to 95½; second pen 92¾ to 94; pullets 94½; hens 93. Exhibition for sale. Eggs $2.50 per setting.
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W. A. GILBERT
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SACRAMENTO P. O....
White Plymouth ...Rocks...
A Specialty. Winners First Prize Breeding Pen Sacramento State Fair, 1900 and 1901.
EGGS IN SEASON, $2.50 PER 15
Mem. Am. White Plymouth Rock Club.

Berkshire and Poland China
PIGS
Brookside Stock Farm, Stockton
C. A. STOWE, PROPRIETOR.

Interesting to Farmers

A Query Answered

ALMA, January 6, 1903.

EDITOR TREE AND VINE:—Will you kindly advise as to following trouble with chickens:

The bird seems to have a very large crop, as if over-fed, but gradually drops and finally dies. On examination I find bird to be very thin, and neck bone curved outward, while skin down back of neck is contracted, drawing back the head. Last year I lost three half-grown hens. The one I refer to now was a full-grown hen. The fowls are warmly housed, have the run of orchard, alfalfa field, and fresh, dripping water; well fed and kept clean. A neighbor, today, spoke of similar trouble among her fowls. The books do not describe diseases, but give remedies, calling by name. What disease is this? The combs are red. SUBSCRIBER.

ANS.—I should think from above statements that fowls are afflicted with tuberculosis. They are housed too warmly and catch cold in the early morning. Let them roost in trees and the chances are that the trouble will disappear.

The Australian Salt Bush.

There have been several inquiries made by the correspondents of TREE AND VINE in relation to the Australian Salt Bush (a triplex semi) which was loudly heralded a few years since as the one great plant which was to redeem our alkali plains, and be to them what alfalfa has been to the low lands and river bottoms. While not accomplishing all that was claimed for it, the Salt Bush has been a very valuable addition to our forage plants, although in San Diego, according to the Union, there is a diversity of opinion regarding it. Mr. Allen, who owns the "Come-out Ranch," considers it a nuisance on his adobe soil, where it does not grow high enough to mow. The first crop is easily eradicated, as it only has one root and spreads from that, but when it begins to seed, it gets thicker than hair on a dog and it is too much for either the pet poland china or the Angoras to keep down. Nearly opposite is C. N. Parmelee with his poultry yards, Pekin ducks and white Leghorns, who has nothing but praise for it; keeps green where grass would utterly fail; the chickens get an abundance of seed from it; the ducks, enclosed on a small patch of it live well, and in the orchard of Mr. Teggert it is easily cultivated out as it grows from a central root and does not propagate itself anything like salt grass. Cattle do not care for it if they can get other green feed, but will eat it when young quite well, but do not care for it if it is tough and old any more than for other tough plants. A carpet of it under a grove of trees would help conserve the moisture and prevent baking of the soil; the soil is always moist under the plant, unless in a spot where all moisture is baked away before the plant covered it. Chicken men prefer it to alfalfa, because it is better feed for poultry and will grow with half the amount of water. It can be trimmed into form to make borders and set designs, its color, an olive green, is always attractive. On the whole, we believe it has an appropriate place in the economy of ranching.

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'PHONE, RED 1202.

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Manufacturers of awnings, tents and waterproof canvas covers. Latest crank and fancy awnings and double rollers. Window awnings for residences a specialty. Tents for rent

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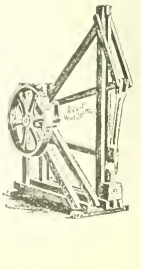

Portable or Stationary; does the work of 8 men with axes

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517 2d St. Oakland
First Prem. State Fair 1901.

ference to the scale insects, however, in the fact that in their mature state both sexes acquire wings, while with scale insects only the males have wings. Scale insects have to depend upon birds and insects and other chance means of distribution, while the white fly can migrate from place to place on its own wings. It is this fact that makes the white fly more to be dreaded than the scale insects, for if it once gets a foothold with us it will spread much more rapidly. In Florida the orange crop has suffered severely from the work of this pest and the revenue of the growers has been very materially curtailed by its injurious work. The trees which it infests are covered with honey-dew to even a greater extent than are those on which the black scale exists, while the black-smut fungus, which injures the trees and renders the fruit unsightly and unsaleable, is very much worse on a white fly infested tree than on one infested with scale. Our State Board of Horticulture has taken up this matter and has issued a warning to nurserymen and intending planters to avoid importing stock from Florida. It is to be hoped that those interested will heed this warning, as the introduction of this pest in addition to those we already have to contend against, would be a great injury to those engaged in citri-culture.

Berry Plants

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A Valuable Parasite

By JOHN ISAAC

What, from present appearances, gives promise of being one of the most valuable insect importations ever made into this State, is that made something over a year ago by the State Board of Horticulture from South Africa—the Scutellista cyanea. For many years the black scale (Lecanium oleae), has been one of the worst pests of our olive, lemon and orange orchards. Nor did it confine its destructive work to these orchards alone, but had a very wide range of food plants, on all of which it was terribly destructive. It was, however, especially destructive to the olive, and we have known large orchards which after being nursed for years and every known remedy used to get rid of this scale, have been dug up and burned, as it was impossible to get any returns on account of the destructive work of the scale. Various enemies of the pest have been introduced and most have done good work, but none have proved capable of coping with it, and it has increased and spread, to the disgust and damage of our fruit growers. The new parasite, however, is undoubtedly doing the work, and the formidable black scale is disappearing before it.

The Scutellista cyanea is a very small black fly, so small that unless one's attention was called to it it would pass unnoticed. It is exceedingly active, jumping like a flea at the least disturbance, and is therefore very difficult to find in the orchard, and in fact can only be readily detected in the grub state. To find it, take a black scale off the tree carefully, so as not to spill its contents, and examine it with a good lense. If the Scutellista is established you will likely find mixed up with the eggs a very small white grub, which is the larva of the scutellista, or if the insect is further advanced, a little black pupa may roll out. In the latter case there will be no eggs left under the scale, for it will have taken all of them to bring the parasite to its perfect state.

One great feature of this parasite is its powers of reproduction. It breeds continually, as long as there is any food for it to live upon. With the Comys fusca, the parasite of the brown apricot scale, we know of but one brood a year. This comes out all at once toward the end of May or in June, according to the condition of the weather, but the scutellista continues to breed the year round, and passes through all its stages from egg to mature insect inside of two months, so there are at least six broods a year. When we consider that each female lays between one and two hundred eggs it will be seen that its powers of reproduction are enormous, and that it must very soon overtake its food supply, which indeed, where it has been established, it is rapidly doing. The writer recently had occasion to examine some trees infested with the black scale, on which this parasite had been colonized, and under every scale he found a little wriggling maggot of the scutellista. Mr. J. W. Jeffrey, one of the Horticultural Commissioners of Los Angeles county, and who has never favored the parasite theory of fighting our insect enemies, writes of this: "Mr. Strong visited an orchard in Pasadena, to which a colony had been sent. He found at least a dozen scutellista in the puparium stage in a section of pepper limb not two inches long. The puparia have since all become transformed into the liveliest flies I ever saw. I am usually very conservative, but I am inclined to think confess to an inclination verging to great expectancy. Never was there a question of so much importance to our citrus fruit growers."

In the short time we have had this insect its work has been wonderful, and if it continues it will prove as great a boon to our State as was the introduction of the Vedalia cardinalis to which we owe the fact that California is an orange shipping State today. No one can place an estimate upon the value of these beneficial insects. In the case of the vedalia its value is the value of our entire orange production for all time, as we could not grow oranges were it not for its labors in keeping the cottony cushion scale in check, and we believe that in this new parasite we have another beneficial insect that will prove second in value only to the vedalia. One great advantage the scutellista enjoys is that, in the most dangerous portion of its exlstence, it is protected by the shell of its host. The egg is laid directly under the scale and there it hatches and remains until it has passed through all of its changes and has acquired wings, when it emerges able to fly from all danger and ready to start a new generation. In securing this parasite, the State Board of Horticulture has done another great work for our fruit growers, and one which they will appreciate.

Fertilizer Depot has been opened by N. Ohlandt & Co. of San Francisco in San Jose, where a large stock of fertilizers is kept on hand for immediate delivery. Mr. Fred R. Cook has been placed in charge as agent, and the office is now busy sending out the company's circulars to the many residents of this valley. This circular contains a very valuable "Spraying Calendar" that should be in the hands of every orchardist. Books sent free on application to Fred R. Cook, Agent, 230 North First street, San Jose.

The Editor of the PACIFIC TREE AND VINE wants to know how many subscribers read the advertisements. If you will send your name and address, mentioning the ad on the last cover of this number, you will receive free, postpaid, a beautiful souvenir.

Notice!

THE PACIFIC TREE AND VINE wants agents in every community, and will pay liberally for subscriptions. Any boy or girl can make from $2 00 to $3 00 a day getting subscribers for this popular farm journal It costs only 50 cents a year, and it has been made the biggest and best paper of its class in the United States. Consider if there are not at least a dozen of your friends you can persuade to take the paper. The price is so low and the quality so high, that any progressive fruit-grower or farmer will subscribe as soon as it is shown to him. Write to the Editor for special terms to agents.

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Because it is an established fact that Fornia Insect Exterminator is a safe and reliable preventive for bores and gophers. This has been satisfactorily demonstrated in different parts of the valley and is all that is claimed for it. Mr. E. M. Ehrhorn, Commissioner of Horticulture, has personally investigated different orchards where Fornia was applied and by careful examination has found no borers nor signs of gophers where the preventive was applied two years ago, and the trees were found to be in a healthy condition. Hoffman & Dorsch, factory southeast corner First and San Salvador streets, San Jose. P. O. Box 877.

Clara A. Neill, manager of Viava Company for Santa Clara and San Benito counties, will give health talks the last Wednesday of each month at 2 p. m. at room 19, Porter building, San Jose. Welcome free to mothers and daughters.

A Logical Conclusion

An editor who runs a notes and query column received the following: "What ails my hens? Every morning I find two or three lying on their backs, toes curled up, never to rise again." The editor replied as follows: "Your hens are dead."

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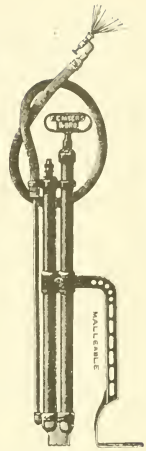

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take orders for "FORNIA" Insect Exterminator at Six Dollars per barrel, of fifty gallons, to be had at factory any time, between now and the fifteenth of May. All orders will come in rotation, so get your orders in at once. Our reason for putting "FORNIA" on the market at six dollars, or half our regular price, is to get it thoroughly introduced throughout the country; and as we have just received a car of material and purchased it at a great reduction we are going to give the Fruit Growers the benefit of same and at the same time get their recommends for next year; but remember this is good for 20 days only, so bring in your orders—first come first served; all orders on our books for future delivery will go at six dollars.

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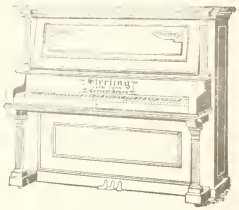

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The PACIFIC TREE and VINE

MARCH 1903

Keep Your Eyes on Palo Alto

Palo Alto Real Estate

Houses Sold during 1902
by J. J. MORRIS

56

If you are desirous of selling your home, list same with us. We have inquiry for houses from four to ten rooms. We are expecting an active spring trade. Our list is low at present.

$8,500—A beautiful home in Palo Alto. Large 2-story house of nine rooms and bath; all modern conveniences. Large lot — 150x280; family orchard; excellent neighborhood. Good value at $10,000. 29

$3,500—2-story house of seven rooms and bath; modern improvements. Location, Waverly street near University avenue. 42

$2,750—Seven rooms and bath. Waverly street near Hamilton avenue. Splendid bargain. Good value at $3,250. 56

$3,600—Ten rooms and bath. Large lot, centrally located. A very comfortable home place offered for sale at a sacrifice. Good value at $4000.

Town Lots and Farm Lands

Palo Alto—A place for your money where it will increase; I'll give you value for value in real estate; will make your money go as far as it ought, and get for you that which will increase your possessions; in town or out I have some very attractive pieces of property that will be worth owning.

Unimproved Town Property

Palo Alto—One whole block of land, splendidly located; can be subdivided advantageously; you had better see me about this soon.

Palo Alto—Another splendid bargain. ½ block of land, sightly located. This ½ block is to be sold this week—first come, first served. Chance to make a nice turn on the money invested.

Palo Alto—½ block of land, location desirable, must be sold on or before the 28th inst. For a cash transaction this ½ block can be purchased at a very low figure.

Palo Alto—A choice residence lot, close to Episcopal church on Hamilton avenue, 100x200, cheap. This is one of our best locations.

Palo Alto—100x200 on Hamilton avenue; am offering this lot for $1000—the cheapest lot offered for sale in Palo Alto considering location.

Palo Alto—Lot 100x110, close to University avenue on Ramon street. Chance for a good investment. This property ought to be looked at. Must increase in value.

Improved Property

Palo Alto—Cowper street, sunny side, 10-room house, modern and attractive, large lot, splendid barn. See me about this piece of property, it is to be sold at a bargain.

Palo Alto—2-story house of seven rooms and bath, on Cowper street, to be sold furnished. This property is now rented and pays about 12 per cent per annum.

Palo Alto—9-room modern house, large lot, family orchard, 150x280; this property must be seen to be appreciated.

Improved and Unimproved Acreage Property

$4,400—22 acres of land adjoining the town limits of Mountain View. Good soil, desirable for residence or orchard purposes 146

$5,250—13.90 acres on Giffen avenue, 7 acres of prunes and 5 acres of apricots in full bearing. New 8-room 2-story dwelling with closets, bath, etc. New modern barn, well and pump. Very convenient to Stanford University. Terms, ½ cash, balance on time. 147

$6,000—10-acre improved place, 1 mile from Mountain View and 3 minutes walk from Castro station, in a good corner; 5 acres of French prunes 7 years old, family orchard, 5-room house, large barn, tank, windmill, chicken house. Terms, ½ down, balance 3 years' time; title perfect.

$7,000—A beautiful home of ten acres best land in Santa Clara valley, planted with apricots 2 years old; 2 miles from Stanford University, and 1½ miles from the depot, fronts on the San Francisco road, house of 9 rooms, bath and cellar, nicely furnished, windmill and tank-house of 2 rooms, laundry, water piped over the place, vegetable garden and family orchard, large barn; chicken, pigeon, rabbit and dog houses; ranch is well fenced, fine double team, single and double harness, fine spring wagon, good road cart, tools, implements and wood. Insurance, $3,500. 19

$12,000—83 acres, 4 miles from Mayfield and Stanford University; house of 11 rooms, barn for 6 horses, water from spring. This is in the foothills and is a very pretty place. Terms, ½ down and balance on long time. 26

$6,000—14½ acres between Mountain View and Mayfield, all in bearing prunes; 350 Robe de Sargent prunes 100 grapevines, 10 acres French prunes, family orchard. 3-room house, fruit house, good well, 600 trays, fruit boxes, track, cars, and all necessary apparatus for drying fruit, fine large oak near the house. Terms easy. 18

$6,500—34½ acres of land near Santa Clara; 6 acres prunes; 1½ acres apples and pears; house, barn, tank and windmill; all necessary outbuildings. 44

$2,200—5 acres in bearing prune trees, on the Springer Road, 2 miles from the town of Mountain View; 4 room house and basement, well, pump, small barn, and nice oak trees. Splendid neighborhood; terms part cash. 65

$1,750—5 acres on Moody road about 2 miles from town, planted to bearing orchard, about two-thirds apricots and one-third prunes, free from frost, and very desirable for residence purposes; easy terms. 86

$12,600—A 60-acre home on the Homestead road, about 5 miles from Mountain View, in the warm belt, planted as follows: 25-acre prune orchard in full bearing, 30 acres young apricots, 2 years old. There is a 7-room dwelling with bath, etc. large barn, windmill, tank, tank-house, and all necessary outbuildings. The buildings are surrounded by elegant live oaks. It is well located and would make an elegant home. The orchard is in first class shape and can be purchased in 10-acre subdivisions at the following prices: Bearing prune orchard, $250 per acre; 2-year old apricot orchard, $200 per acre. 93

$4,500—10 acres on the Moody road, planted to bearing Salway peaches, 2-story, hard-finished house, tank, windmill, barn and cellar. This is very desirable property, situated in our best fruit and residence section, and very desirable. 122

125 acres of land 3½ miles south of Palo Alto, $135 per acre. Best fruit belt in Santa Clara county, surrounded by fine homes. 201

125 acres of the best fruit land in Santa Clara valley, 3½ miles south of Stanford University, warm belt, excellent neighborhood.

J. J. MORRIS

PALO ALTO ——— CALIFORNIA

Entered at San [illegible] Post Office as Second Class Mail Matter.

The Pacific Tree and Vine

Published at 18 South Market St., San Jose, Cal.

VOLUME XIX. NUMBER 48. MARCH, 1903. MONTHLY, 50 CENTS A YEAR.

THE HORTICULTURIST

A Terrible Fruit Pest

Recently there was held and destroyed by the Horticultural Quarantine officer at San Francisco 209 boxes of fresh fruit—peaches, pears and plums—from Sydney, Australia. This was done for the reason that the Queensland fruit fly, so called, and the Mediterranean fruit fly are prevalent in that part of Australia, and it is not desired to take even remote chances of introducing this serious pest into California. These fruit flies, of which there are several species, are perhaps the most serious of all the pests which our fruit growers have to fear. Fortunately we have none of them in California yet, nor will have so long as the vigilance of our Horticularal Quarantine officer can prevent their entrance. The dreaded orange maggot, which has got a foothold in our sister republic, Mexico, is one of these, and there are others which work on apples, cucumbers, melons, etc., on peaches, plums, pears or olives, and in fact some of them work upon each kind of fruit and some of them upon several. In parts of Italy olives are so injured by them that it is difficult to get a single fruit that is not a mass of maggots on the inside. In Mexico the oranges are a reeking mass of crawling maggots, and in Hawaii a very large percentage of the melon and cucumber crop is rendered worthless from the attacks of one of these fruit flies. Official reports from Western Australia and other states of that country state that the Queensland and Mediterranean fruit flies have obtained such a hold there that fruit growing is practically at an end. There being hardly a specimen of fruit of any kind that is not filled with the disgusting maggots of these flies So serious, in fact, are these pests, that Mr. George Compere, now entomologist for West Australia, has been sent on a mission the world over to discover the home of these pests and their natural enemies, if he can.

This group of insects is the most disgusting of any that can attack our fruits. They belong to the order Diptera, or two-winged insects, as do the horse fly, the meat fly, and the dung fly, which they much resemble. All this class of flies are produced from maggots, and these are usually produced, not singly, as is the case with many insects, the codlin moth for instance, but in masses, as is the case of the maggots of the meat fly or blue bottle. The females of all the fruit flies lay their eggs in the ripening fruit, and lay a large number in each place. This she does by piercing a very minute hole through the skin, and laying the eggs all in a bunch. In a very short time these eggs hatch out into little maggots and begin to eat the fruit, increasing steadily in size, until the mass of the fruit beneath the skin becomes a putrid, disgusting, crawling mass. Unless destroyed the maggots drop to the ground when fully grown, form into a pupae and develop another generation of flies to go through the same cycle. It is impossible to reach them by any artificial means, such as spraying or fumigating, for they are imbedded in the solid meat of the fruit, and the only way to destroy them is to pick and destroy every specimen of fruit. The codlin moth in our apples is one of the most serious pests ever brought into this State. Here we have but one or rarely two worms in one fruit. The eggs are laid on the outside of the apple, and we can destroy a large part of them with poison. But with this fly the eggs are laid when the fruit is ripening, a mass is laid in each fruit, and they are laid inside the fruit, where no paris green or anything else will reach them.

We have had some pretty serious pests brought into the State in former years, but taken all together they will not compare in destructiveness with this one fly, for if it once obtained a foothold there would be practically an end to the great horticultural industry which now brings $180,000,000 yearly into our State. It is to be hoped that our Horticultural Quarantine officer may succeed in keeping this terrible pest out of California for all time.

Tree Planting

Tree planting season is now well advanced, and reports which have reached TREE AND VINE from different parts of the State are to the effect that while not so heavy as in some former years, it has still been very heavy and there has been a good demand for nursery stock. Apples and peaches seem to be much in favor, and the largest acreage of

deciduous planting has been to these fruits. There is yet a full month in which tree planting may be safely done, especially as the season has so far been a cold one and all classes of trees are yet dormant. Usually we have very warm weather in January or February, which starts the sap flowing and trees begin to throw out leaves in March or even earlier. We have escaped this warm spell this season and in consequence trees are later both in putting out their foliage and blooming. In taking trees from the nursery row for the orchard, a clay bath should be prepared, and as soon as the young trees are removed their roots should be immersed in this puddle. The clay forms a thin coating over the roots, keeps them from direct contact with the air, and preserves them from danger of drying out. Trees puddled in this manner will keep fresh very much longer than those dug up and exposed to the air, and even if planted directly they give better results than unpuddled stock. In selecting trees for planting always get young stock. Trees one year from the bud will give much better results than older ones. Many people in their haste think that by getting three or four year old trees with a big top they will have fruit so much earlier than by planting out a little one year old switch. But the small tree will get rooted, and soon overtake the bigger ones, make a more thrifty growth, and give better results. In setting out young trees, too, they should be cut back to from 14 to 16 inches, and made to throw out their lateral branches as close to the ground as possible, leaving sufficient space to cultivate under them. This is advantageous for several reasons. A low pruned tree shades the ground and conserves the moisture, it shades its own trunk and prevents sun scald, with the consequent borers and decay, and the fruit is more easily gathered. In planting young trees, protection from the sun should be provided for the first season or two. Borers lay their eggs on the sunny side of the young trees, and if these hatch they soon enter into the wood, and the tree is ruined. It may as well be taken up and burned, for it will never be profitable. By protecting the young trunks from the sun until they have formed tops large enough for their own protection, this is avoided. Except in the case of some dwarf varieties, no trees should be planted closer than 20 feet apart. Apples should be 30 and walnuts and figs not nearer than 40 feet.

In setting trees in permanent orchard rows, they should be planted at the same depth at which they grew in the nursery. A liberal hole should be prepared for them, and the top soil be placed in the bottom of the hole. The roots should be carefully spread out. By this means the young trees will have ample room, and good soil for the first year's root growth, and this is half the battle. With no set-back the first season, half the struggle of the mature tree is over. A tree badly planted has a hard struggle the first year, and if it survives, it never fully recovers. A few minutes extra time spent in setting out a young tree is time well invested and pays many hundred per cent in the long run.

The Orchardist and Labor

The committee of fifteen appointed at the late Fruit Growers' Convention to solve the labor problem in this State is very probably up against a hard proposition. They are working with laudable energy, and have sent lecturers—practical farmers—into the Eastern States, where the advantages of farm life in California will be set forth to practical men and illustrated with magic lantern views, while a fund of information and statistics will be available for all inquirers. It is quite probable that by these means many will be induced to come to California. These will be largely of the more enterprising and roving class, who are ambitious to improve their conditions in life and who will become competitors instead of assistants to our fruit farmers at the earliest possible date. The ordinary farm laborer, the one who is content with his conditions in life and satisfied to remain a farm laborer, which is the kind we need, is not the kind of man to change his position unless driven to it by hunger, and he stands in no danger from this at the present time. All through the Eastern States there is as active a demand for farm help as there is in California, as is evident from the following extract from the Orange Judd Farmer of a recent date:

"The demand for help, both on farms and in farmhouses, is going to be more insatiable than ever this spring. We have taken up this matter with the officials of the federal government in the hope that something could be done to supply this demand by immigrants who arrive on our shores from European countries. A free market for immigrant labor is maintained by the labor bureau at Castle Garden, whose address is United States Barge Office, Battery Park, New York City, but the superintendent, Mr. Maera, writes us that the demand for this class of help is far in excess of the supply, and that the wage rate ranges from $15 to $20 per month and board. The labor bureau referred to charges no fee whatever to employer or immigrant. It seems that arriving immigrants are generally taken care of by their city friends or engaged as soon as they get through the barge office. The scarcity of any kind of help, even at the present high rate of wages, is working great hardship, especially to farmers. It renders all the more trying the problem of dealing with the great body of tramps who won't work at all. The situation on the Pacific Coast is even more desperate than in the middle and western states, and there are not a few who maintain that the Chinese exclusion act is an error under present conditions. We hardly approve of this latter idea, however."

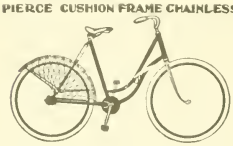
In view of this condition of affairs in the field they are working over, it is hardly probable that our labor committee will succeed in inducing very many of the class we need to emigrate to California, and our farmers and fruit growers will have to put up with a shortage of labor for another year, and depend largely upon the undesirable Chinese and Japanese laborers to help them out.

Of Interest to Fruit Growers

A new collapsible fruit carrier is the invention of W. H. Ferguson of the Home Union, San Jose. It is made of a single sheet of card board, will ship perfectly flat, can be readily set up by the grower or packer, holding half or a dozen each of ripe apricots, peaches, or other fruits. Will pack in the regular fruit case, having tapering sides, the fruit adjusts its If in the cell, and cannot move around or come in contact with the sides of the shipping case. A cleat nailed inside, at either end of case, for the carriers to rest upon, protects the bottom. Similar cleats protect the top, making practically a suspended carrier, well ventilated, for transporting ripe fruit to Eastern and European markets without the possibility of bruising and in first class condition. Fruit can be delivered direct to the consumer in these carriers without touching the fruit to remove the bloom or bruise the ripe fruit, as is necessary in all other double-cell carriers now on the market. The trifling cost of the new carrier in comparison to others together with the many other good features, ought to insure speedy adoption of the 1903 patent fruit carrier.

Information as to how seedless melons are grown, can be obtained from M. G. Bailey, San Jose, Cal. See ad in this issue.

PIERCE CUSHION FRAME CHAINLESS



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War on the Codlin Moth

By JOHN ISAAC

The season is very close at hand when our apple and pear growers must round up their shoulders, buckle on their armor, or get out the spray pump, overhaul it and see that it is in proper working order to commence the annual and costly warfare on the codlin moth. There is no shirking allowed here, if results are to be obtained. See that the paris green is pure—is paris green, and not some cheap concoction that will save the purchaser a few cents in the buying and cost him all his outlay of money, time and crops in the using. If you want fruit you have got to work for it now, and use only such preparations as will reach your enemies and deal with them effectively. Having a good spray pump and good material it is next necessary to apply it properly and at the right time. The spray should be mixed according to the directions given herewith and thoroughly applied. See that every part of the upper tree is well covered with the spray and that no part escapes. See that the mixture is kept constantly stirred while using or the paris green will gradually settle to the bottom of the tank, and you might as well spray with pure water and expect results. Commence spraying as soon as the little apples form, and soon after the blossoms fall from the tree. It is no use spraying while the tree is in blossom or until the fruit begins to form, but the sooner it is done after that the better. It was thought at one time the eggs of the codlin moth were laid in the blossom and from there found their way into the fruit. Later investigations by entomologists have shown that the eggs are deposited on the side of the little apples and from thence the young worm finds its way into the fruit. It is, therefore, useless to spray until the fruit has formed, but as the parent moth is on the look-out for the young fruit, it is not very long after it forms before her eggs are deposited and the young worms begin to burrow into a place of safety, beyond the reach of spray pump and Paris green If this first brood are not caught they will soon become the progenitors of a second very many times more numerous and much harder to control. This is why the first spraying should be done at the proper time and be done thoroughly. If we can only reach all of the first brood there will be no second one, but with the best work that can be done some worms are sure to escape and for this reason subsequent sprayings are necessary. Paris green placed where the young worms are compelled to eat at will put an end to their career and stop all future generations which they might propagate. To the end, therefore, that our readers may not forget the time and the method, we have taken this opportunity to call their attention and give the formula for using the poison herewith.

The trees should not be sprayed during a hot spell or north wind, or when the trees are in bloom :

Paris green (pure, to contain at least 50 per cent arsenious acid).. 1 pound
Fresh lime..... 6 pounds
Water..... 200 gallons

Use no ammonia or soap. Make the Paris green into a paste before placing into spray tank, and keep constantly stirred while spraying. Spray as soon as the blossoms drop, and before the fruit turns downward. A second application should be made about sixteen days after the first, and, where required, a third and even fourth application for late varieties, at three weeks intervals. To make the Paris green more insoluble, and thereby prevent injury to the leaves, dissolve six pounds of fresh lime in water, and, when the lime has settled, add the water to the solution and keep it constantly stirred.

In orchards where the fruit is affected with apple scab, the Paris green can be added to a weak solution of Bordeaux mixture of 200 gallons. In buying Paris green, growers should demand a guarantee that it contains at least 50 per cent arsenious acid.

County Entomologist Ehrhorn has been experimenting with tobacco powder for the peach borer and has found it effective. This is one of the worst pests the orchardists of this part of the State have to contend with, and it seems to be worse in the Santa Clara valley than elsewhere. The great difficulty in combating this pest arises from the fact that it works underground, and under the bark of the tree, so that it is almost necessary to destroy the trees to get at it. In speaking of his experiments with tobacco dust Mr. Ehrhorn says that he applied it to a few badly infested trees in the spring, and on examining them in the fall found but two borers in all the six trees he had treated. He used about half a pound to the tree, and covered it over to prevent the wind from carrying it way. The ground around by the stem of the tree became saturated with the tobacco juice and it penetrated into the burrow of the borer. It will be a great benefit to our orchardists if Mr. Ehrhorn discovers some effective method of keeping this destructive pest in check.

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The Value of Hothouses

By S. W. CHAMBERS

So great is the use and importance of inexpensive hothouses and cold frames in starting early vegetables that no one should be without one or more. Crops can be protected in these until very late in the fall, and semi-hardy plants can be kept in perfect condition all winter long. Where one raises vegetables for early market, hothouses are, of course, absolute necessities, but even the ordinary farmer needs them for his early crops, whether he is engaged in the market-gardening business or not. Tomatoes, lettuce, seed onions and scores of other vegetables can be started under glass months before it is possible to plant them outside.

The hothouse should always be built on the sunny, sheltered side of a hill or building or grove of trees. A very slight protection such as these makes a difference of several degrees in cold weather especially when the wind is violent. If there is no such sheltered place a windbreak should be constructed on the north and west side of the spot. This can be built by driving posts in the ground, leaving the tops five or six feet above the surface. Any loose boards, pickets or sticks from the woods nailed cross-wise on these posts, and thick brush and twigs attached to them, hold in position packing material like straw, cornstalks or even leaves, furnish a perfect windbreak, and keep the hothouse or cold frames sheltered all winter.

The hothouse itself should be built with solid timber that will last. Posts eight inches in diameter should be set for the foundation walls. They should run up as high as the walls. Old lumber can be utilized for boarding up outside and inside, leaving a space between the two walls for packing material. This space should be packed late in autumn with good horse manure. The excavation for the floor of the hothouse should be deep enough to permit plenty of packing material. There should first be a foot of good warm manure, and over this three or more inches of rich soil for seed bed. The roof of the hothouse should be built with the greatest care. Double sashes are better than single, for then the house is proof against all weather. The edges and sides should be carefully constructed of matched lumber so that water will be shed. In addition to the glass sash door there should be a covering of heavy unbleached muslin. This should work up and down on a roller so that it can be unrolled and rolled up according to the weather. On very cold days and nights this covering will greatly add to the protection. In addition to this a heavy canvas covering, or an old sail cloth, thrown over the whole structure in times of heavy storms will make the hothouse practically proof against the coldest weather. Without any further heat than what the manure supplies, the most delicate of seeds and plants will thrive there in midwinter.

To Fruit Growers

Most fruit growers of Santa Clara Valley, and to some extent the fruit growers of the State, know that the Root Borer—commonly called the Peach Root Borer—is more to be feared than any other pest. While many ways of exterminating them have been tried, none are known that are satisfactory. The Farmers' Club has therefore appointed the undersigned to collect a fund to be paid to the person or persons who will devise some way to exterminate this pest with little expense and without injury to the tree. The money as donated will be placed in the Treasurer's hands, S. B. Hunkins, President Garden City Bank and Trust Co., and we trust that a considerable sum will be received, so that the efforts to earn the same will be earnest and widespread.

Any sum will be received with thanks, but no matter how large an amount you give, if a satisfactory remedy is found you will receive many times the value of your contribution.

To the contestants for this prize we would say that we shall be very exacting and careful in our examination, and shall have to be satisfied beyond a reasonable doubt that all the conditions are fulfilled before any award will be made.

The following conditions have been adopted by the Committee:

No application or remedy will be considered by the Committee until the same has been used satisfactorily by a considerable number of growers and endorsed by them.

The Committee alone shall be the judge of the merits of any remedy, and no award will be made until the remedy is accepted by an affirmative vote of two thirds of the whole Committee, and such vote shall be binding upon each and all persons claiming to have found a remedy.

The remedy must destroy the borer without injury to the tree, and at a cost not too great to prevent its general use, and must be one not having been already commonly used in Santa Clara Valley. A parasite will be deemed as a remedy fulfilling the conditions if it exterminates the borer.

Money contributed will be returned to the contributors after a reasonable time if not used.

S. F. LEIB, Chairman.
W. P. LYON, Vice-Chairman.
J. T. GRANT.
FRANK BABB, President Farmers' Club.
S. B. HUNKINS, Pres. Garden City Bank & Trust Co., Treasurer.
W. P. CRAGIN, Secretary.

Seedless Watermelons

How to grow seedless melons with but little additional labor. Full information on receipt of One Dollar. Address, M. G. Bailey, San Jose, Cal.

Interesting to Farmers

Water Irrigation

It should not be supposed that because we have had good rainfall so far, and because the trees are not growing, that irrigation is not advisable. Winter irrigation is undoubtedly beneficial under any conditions. If we get plenty of rainfall, the ground will not be more than full, and if there is a shortage, it will be full in any event. The great need of the land is abundance of water during the winter months. There should be sufficient to fill it from the surface down to the subterranean flow, so that there is no dry stratum between the top and the bottom water level, in which deep rooted trees may perish. This is naturally filled up during a wet winter, and furnishes a reservoir during the dry summer, being brought to the surface by capillary attraction; but in dry seasons, the moisture is not there, and a dry stratum cuts off the lower water water from the surface and the trees suffer. Now, if we take advantage of the abundance of winter water and fill up the soil, we are safe for a summer supply, even if the seasonal rainfall is short. If, on the other hand, the rainfall is excessive, the ground has all the water it will hold and the excess drains off This is the great advantage of winter irrigation. The land is filled with water for summer use, and the orchardists who resort to it are comparatively sure of a crop. We have suffered from a long series of years of insufficient rainfall. The level of the subterranean water-table has been gradually lowering, and while the surface has been wet down a short distance each season, there has been a thick stratum of dry soil underneath. In the summer the surface moisture was soon consumed, and the roots of the trees being in dry soil had nothing to draw upon, and hence very many trees died, while in other cases where the trees still lived, the fruit borne by them was inferior both in size and quality. It is then a good plan, where water is available, to thoroughly soak the soil in the winter and fill it with the necessary moisture for the summer use of the orchard.

Owls as Gopher Destroyers

It is a conceded fact that the gopher is one of the most persistent and troublesome pests that the citrus fruit grower has to battle against, writes a correspondent of the Cultivator. The ingenuity of man has been taxed to provide means for its extermination, as evidenced by the great variety of gopher traps seen on sale, and we seldom hear of the natural enemies of the pest among our native animals or birds. To bring this matter to the attention of your readers is my excuse for the following remarks. Early last spring I discovered that a pair of monkey-faced owls had pre-empted a section of my dove cote, built in the upper part of our barn, for a nest. Our first impulse on making the discovery was to destroy the intruders, to ensure the safety of our doves, but the principle of treating the accused as innocent until proven guilty saved the owls from molestation, and gained for us friends for which we have many times since been truly thankful. The nest was so situated that it was easy of inspection, and daily visits were made to it during the weeks of hatching and until the young were grown. The amount of animal life that was carried in to those youngsters was a constant wonder to us. The bill of

fare provided by the parent owls consisted of kangaroo rats and mice, ground squirrels, half-grown jack rabbits, gophers by the dozen. From first to last not a creature with a feather was brought in, not a dove disturbed. They soon regarded the owls as proper residents of the cote and each came and went without regard to the movements of the other. The owls did not leave us after their family was raised, but have made their home in our eucalyptus trees all summer, and each night their plaintive, musical Who! Who! tells us that our guards are awake and that the campaign against the army of pests is still progressing and its effect is distinctly manifest. Any man or thoughtless boy who kills one of these birds is a public enemy, and to safe-guard them our law makers should throw every possible protection about them, and if the publishing of these facts tend to bring about increased consideration for them I shall be gratified.

The Coyote

Whether the coyote is a friend or an enemy, whether he is to be hunted down and ruthlessly slaughtered, or to be protected and preserved, depends upon the point of view from which he is regarded. At the present time there is much complaint of his ravages heard from poultry raisers, sheep men and hog raisers along the foothill sections of the Sacramento and San Joaquin valleys, where he is helping himself to the tenderest fowls and the juiciest young porkers, varying his diet with an occasional young sheep, without the permission and in opposition to the welfare of the owners. To these people the coyote is an unmitigated nuisance and his total extirpation would be a consummation devoutly to be wished. On the other hand orchardists and vineyardists throughout these sections, and particularly in the southern end of the San Joaquin, regard him as their friend. They have little stock that he can injure, whereas with him eliminated, their orchards and vineyards become the prey to the countless hordes of jack rabbits which overrun them, and which can only be kept in check by expensive and not altogether successful or satisfactory methods. These methods include drives, trapping, poisoning, hunting with dogs and guns, and other methods all entailing eternal vigilance, and a great expenditure of time and money. The rabbit is the coyote's natural prey; he turns to other when it is more convenient or when the jacks run low. A few years since, in the interest of heep and poultry men, the States paid a liberal bounty for the destruction of coyotes, and the jack rabbits increased in such alarming numbers as to almost threaten the raisin industry in many sections through the San Joaquin valley. Since the repeal of the bounty law, the coyote has had a better chance for his life, there has been little object in hunting him, and he has increased so rapidly that the natural balance between coyote and rabbit has been established once more, and while the rabbits exist in large numbers they are not the serious pest they were a few years ago. But now the hog raiser, the sheep man and the poultry keeper are suffering. And there you are! Shall we protect or destroy the coyote?

The pamphlet, "Stassfurt Industry," just published, contains an interesting description of the famous potash mines in Germany, from which all the potash imported into this country and used for manuring is derived. The chapter about the use of potash in agriculture as one of the important ingredients of a complete fertilizer, adds largely to the value of the book, and among the many fine illustrations, those showing the experiments at Southern Pines, N. C., are of particular interest to practical farmers. Copies of this pamphlet can be had free by writing to the German Kali Works, 93 Nassau St., New York, N. Y.

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The Flower Garden

Growing Carnations

Carnations are very much easier grown than are roses—that is, if clean, healthy plants are secured to start with. In the effort to secure healthy plants, it is very much better to get stock in the spring rather than in the fall If the plants are shipped from a distance, the smaller plants may be expected to reach their destination in better condition in spring than will the larger field-grown plants in late summer or fall. The larger plants frequently develop "stem rot" and other fungous diseases in transit (when the disease germs are present.) The close confinement incidental to the packing for shipment furnishes just the conditions for the development of many carnation diseases.

A decided change in the time of planting into their winter quarters has taken place in recent years. Early in August, for some of the choicer varieties, is considered the very best time for this work. It is readily understood why this should be so, when we remember that the plants are better able to withstand the shock of lifting when not so large nor so deeply rooted. These were considered to be ideal conditions for the carnation to develop in and so they were so far as producing large plants was concerned; but the plants were generally succulent or "sappy," consequently susceptible to disease. "Lifting" is always a violent operation, and its evils should be reduced as much as possible.

Strange as it may appear, when we consider that the carnation is perfectly hardy in Great Britain and other parts of Europe, the disease among carnations known as "rust" may be circumvented by growing thé plants under glass, winter and summer. This fact was found out accidently a few years ago, when a raiser of seedling carnations had a new kind that he considered good enough to send out. He propagated a batch of cuttings later in the spring than was usual in those days, and because the season was too dry for safe planting, and no water was convenient to the plot of ground where earlier propagations of the same variety were planted, they were kept under glass all summer. The plants that had been growing outdoors, after being planted in their winter quarters for a few weeks, developed a distressingly large crop of rust, and after the affected leaves had been removed and burned, the plants so treated seemed altogether too far apart. In order to fill up the spaces, the smaller plants grown in two-and-a-half inch pots were planted between the lines; and notwithstanding the fact that all the larger plants on all sides of them were more or less affected with rust, the smaller plants that had been grown under glass all summer did not show a trace of the disease. This experience, it is believed, was the cause of other systematic experiments being tried with valuable older varieties, which had "leaf-spot" and other diseases. The experiments gave gratifying results. The old variety Buttercup, now nearly out of cultivation, though well remembered, was found to be much more healthy and satisfactory from every point of view when grown in the new way.

As the carnation delights in much fresh air on all favorable occasions, it has been found that by early planting outdoors in spring (which means after danger from severe frost is past), and the earlier lifting to winter quarters, much more satisfactory results are obtained.

The most troublesome insects are greenfly and red spider. The greenfly or aphis is kept in check by thorough fumigation with tobacco or some of the tobacco compounds The red spider may be kept in check by an occasional thorough syringing, directing the full force of the water supply where these little mites are getting in their destructive work. Its work may be recognized by the grayish appearance of the leaves. It has been found that plants which have been punctured by insects are more likely to take some of the diseases to which carnations are subject, the disease germs finding their way into the tissues of the plants through the apertures made by the insects.

It is apparent, therefore, that if we would have our plants comparatively free from diseases we must strive to keep them free from insects. Insects are far more easily combatted than diseases I have tried many of the fungicides, but must confess, with little or no satisfactory results; whereas, when insectides are applied with intelligence and good judgment, the results are generally satisfactory. The best way, I have found in my efforts to control diseases of plants, is to keep the carnations free of all dead and decaying leaves, and the beds clean from weeds, and the soil lightly stirred on the surface.

A word is needed as to soil in which to grow carnations. Any good loam will answer, if sufficiently porous for water to pass away freely. Choose that in which diseased carnations have not been grown. Persons who have investigated the subject tell us that the fungus germs which cause "stem rot" remain active in the ground for several years. For this disease the sterilization of the soil (by steaming or baking it) is said to be the only remedy. The sterilizing of soil looks to be a big undertaking to anyone who has not made the attempt, and some practical growers doubt the advisability of the practice on general principles. While admitting that the process may kill disease germs, weed seeds and insects, they think that there

is danger of destroying the nitrifying bacteria which fertile soils should contain. At all events, to prevent disease is better than to eradicate it.

The carnation is multiplied by means of cuttings taken in the fall or winter. When the increase of stock is undertaken, it goes without saying that only the best cuttings should be taken and those from the most healthy plants. It is understood that nearly all plants may be improved by selection, and carnations are no exception to the rule. The aim should be to secure quality before quantity.

It would hardly be advisable to close these notes without referring to varieties, and yet what is the very best in a given color this year may be completely eclipsed next year. Varieties come and go. Keep up with the times. The Mrs. Thomas W. Lawson, the cerise-colored variety which was advertised so extensively a few years ago, has proved to be a sterling variety. Among scarlets, G. H. Crane is very good, but it will soon be relegated when Adonis and some other excellent ones in the same line of color are disseminated. In the crimson class, General Maceo is a free bloomer, but Governor Roosevelt is a better flower, and President Roosevelt, in the same color-class, is still better; but according to reports that we read, Harlowarden is superior to them all. In whites there are White Cloud, Lorna and a few others, and now Lillian Pond is expected to supersede these good white ones. In light pink varities there are Cressbrook and Genevieve Lord; but Enchantress is head and shoulders above either of those mentioned, and the latest information is that Fiancee is equal if not superior even to Enchantress. So every year the list changes. In the new lists are some poor ones sometimes, but, on the whole, each year sees an advance. In this way the carnation-grower makes progress and leaves old ideals behind. Compare the carnations of today with those of twenty years ago.

We must always be lenient toward novelties, because they sometimes fail to do themselves justice the first year after being distributed. It is always best to give new varieties that are known to possess promising qualities a second year's trial, and frequently a third. It has been found that a seedling does not always do well the first year away from the place in which it was raised from seed; and again some varieties have done better. During the present year three novelties which have been honored by awards of merit have developed faults which their respective owners believe are so serious that they will not be disseminated, an honesty that is to be much commended.

Raising carnations from seeds is just now a popular practice. By this means new varieties are secured. The results are sooner known,—whether anything of value has been secured.—than is the case in the raising of roses from seed. The producer of a seedling that is an improvement over existing varieties in its line of color has the privilege of giving a distinctive name. The family name of the President of the United States has furnished names for several varieties. I recall four, and there may be more. The Mrs. Theodore Roosevelt is a brilliant shade of cerise; Miss Alice Roosevelt is a delicate pink; Governor Roosevelt is crimson, President Roosevelt is similar in color to Governor Roosevelt, but is believed to be an improvement on the older variety. Loyal growers evidently desire to do honor to the name of the President.

Sometimes new varieties originate as "sports,"—or by "bud-variations," as they are known to scientists. A bud-variation is a sudden appearing of a new form or color in a single plant. Thus Daybreak, a well-known delicate flesh tent, has sported into a delicate pink with dash of blue in its composition, giving it a rose tint

When the plants are done blooming in the spring, they are thrown away. New virgin plants are much better and no florist keeps the old one over Usually the amateur would better buy his plants late in summer than attempt to grow them. Plant them ten to twelve inches apart in good soil on your greenhouse benches; give good care; pick off the diseased leaves; fumigate for the greenfly: then gather the flowers.

The Farley Fern

That this lovely fern should have many devoted admirers is by no means surprising, but unfortunately the "Queen of the Maidenhairs," as Adiantum Farleyense has been termed, is somewhat exacting in regard to cultural conditions, and in consequence is not an unqualified success in the average window-garden. It is not so much from lack of heat in a dwelling that this fern is likely to suffer, the temperature needed being not more than 65 to 70 degrees, but the delicately beautiful foliage of the maidenhairs is very susceptible to injury from dry air and dust, two ever-present evils in a furnace heated house.

There are also two other conditions to be especially avoided—dryness at the roots and cold draughts. To prevent the plant from drying out too rapidly it is a good plan to place the fern pot in another pot or jardiniere a size or two larger and then to pack the space between the pots with damp moss, being careful to avoid the accumulation of water in the bottom of the jardiniere. There are also miniature greenhouses made for the window-garden, and with such a contrivance the double pot is unnecessary. But if the fern must be exposed to the atmosphere of the dwelling then a dip in tepid water twice a week will remove much of the dust from the foliage and refresh the plant materially.

How Plants Protect Themselves

A single leaf of an apple tree has one hundred thousand pores, and through every one of these water is constantly pssing off into the surrounding atmosphere. Air has an enormous appetite for water, and the drier it is the more it takes up.

Considering the way in which the atmosphere is constantly forcing the apple tree and every other plant to give up its moisture, the plants is more valuable than gold is to human beings, and where the supply is scanty they have learned to hoard it as carefully as a miser does his treasure. Plants cannot refuse to give up water altogether, for otherwise they could not grow. All their food is taken up by their roots, dissolved in water. This sap rises through their veins and feeds them. They make use of the side is exposed to the direct rays of the sun. The glaze prevents the hot rays sucking all the water out of the leaf. Some plants, indeed, refuse entirely to part with water through the upper side of the leaf. Laurustinus and lilac leaves have no pores at all on the shiny upper surface of the leaves.

Pine trees inhabit dry, sandy soils. These refuse to grow wide leaves, but confine themselves to producing thick, fleshy needles, which have very few openings through which water can escape.

marvel is that after a very few days of hot sunshine every plant does not wither and dry up. Yet even those growing in light soil and exposed situations manage to withstand weeks of drought without losing their greenness. More marvelous still, acacias and cacti will grow and remain green out on the fiery desert in Africa and Arizona.

Plants, like all other living things, have learned to adapt themselves to their situations, and to take precautions accordingly. Water to mineral matter, and then let the water which contained it escape through their lungs—that is, their leaves.

But their methods of holding on to sufficient water to keep them green and flourishing are many and ingenious. Go out and pick a leaf from any plant or shrub—a hawthorn leaf, for instance. You will notice that its upper side is much smoother than the under.

The upper side looks dull in comparison. This is because the upper Cabbages need an enormous quantity of water, but unless the supply was absolnetly unlimited their big leaves would give up so much to the air that, without some means of checking this over liberality, they would wilt and die.

Cut a fresh cabbage leaf and examine it. It has a sort of dusty, mealy look. Put the leaf under a microscope an you will see that this bloom is composed of tiny needles of wax. The cabbage has produced the wax to protect itself

from the water-stealing rays of the sun.

Australia is the driest of all the continents; yet it has plenty of trees. They never grow any more leaves than they absolutely need, and they take the additional precaution of turning these leaves edgewise so that those water thieves, the sun rays, cannot fall direct upon their broad surfaces. Australian acacias go a step further still. When they are fully grown they shed their leaves altogether; they keep the leaf stalk and produce two tiny wings, which present their edges to the sun.

In spite of these various precautions the amount of water which growing plants part with to the air is almost beyond belief. A square foot of long pasture grass gives off nearly four and two-fifths pints of water every twenty-four hours in dry weather. That is to say, there rises into the air 106 tons of water from each acre of meadow within the summer day and night.

One single cabbage has been measured to give off two and one-half pints of water within a similar period. As for the amount big trees give off it is enormous A sixty-foot elm will have about seven million leaves. If spread out these would cover two hundred thousand square feet, or five acres. From these leaves there pass out into the air wtthin a summer day over seven tons of water in the form of vapor. — Baltimore Sun.

The dreaded asparagus rust, which has done such great damage to the asparagus fields in the East, has been reported from several different points in this State We believe it has not yet been definitely settled that this is identical with the Eastern plague, but it is a threatening danger, and has already give an set-back to the industry here. Very many farmers were figuring on going into asparagus growing on a large scale to supply the Eastern demand, and most of them will be deterred by the reported presence of the rust here.

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Among the Apiarists

How Honey Bees Fool the Bumble Bee

The men who study insect life have found the big black and yellow bumble bee is often swindled of the results of his hard day's work at honey gathering, says the New York Sun. The dapper little hive bee knows how to play upon his weaknesses.

The hive bee is a thorough city dweller, living in a bee metropolis which has its bee mechanics, builders and nurses, bee boards of health that look after the ventilation of the city, and the removal of the garbage—bee policemen who guard the hives against moths and other honey thieves, with bee queen to rule over all.

The clumsy loud-buzzing bumble bee, however, is a veritable farmer and lives with a comparatively small family in his mud farmhouse in the clover fields. He is such a simple soul that the hive bees look upon him as a hayseed.

Several of them will meet him when he is on his way home with a load of honey and induce him to stop and have a chat in the bee language. Then they pat him and rub him and the bumblebee loves to be tickled. Thus they work upon his good nature until he actually lets them take part of his bag of sweets—all of it sometimes.

When he has been robbed in this fashion the smart hive bees bid him an affectionate good-by, acting just as if they were slapping him on the back and probably telling him that he must come up to town and take dinner with them some day when he is not busy. Whoever knew a bumble bee to have a day to himself?

Then the robbers go home and lay their plunder away, while the bumble bee sets out for his farmhouse, congratulating himself upon having such good friends, likely enough, and quite convinced that he is, indeed, a highly popular fellow.

As a valuable adjunct to the apiary, the honey extractor has scarcely a peer. Every beekeeper, large or small should have one.

Be in readiness to take care of the honey crop by having your hives and fixtures ready. There is but one time to apply the necessary attachments to secure the best results, writes A. H. Duff in Farmers' Advocate.

Do not be backward about investing in the best stock of bees and the best hives, and post yourself first so you will make no mistake which are best. Fresh bred Italian bees and the latest standard hives are what you want.

Those who are very timid about stings should wear a veil when going about the bees. Any veiling stuff will answer to make it from, and common mosquito netting will answer. Tuck it around the hat crown with a rubber string, and let it come down over the hat rim. Another rubber band around the waist, with holes for the arms, will insure you perfect safety.

George W. Forbis, a well known farmer living near Hilldale, Howard courty, Mo., has just discovered that he has been living in a house of honey. Six years ago bees found lodgment between the weatherboards and plastering of his residence. The other day he concluded to investigate, and on tearing away the weatherboarding found that the bees had made a solid wall of honey. More than 100 pounds of the finest quality of honey was taken out.

If you have two colonies of bees and no money to buy a bee smoker, sell one colony and procure the smoker. It will be of more value to you than the second colony, for you will then get into your hive of bees and learn something.

Honey is a valuable medicine and its uses are manifold. It is excellent in diseases of the throat and lungs and has the same curative properties as cod-liver oil. It is often used externally for croup and colds.

Help Wanted

We are trying to put the PACIFIC TREE AND VINE on a basis of 10,000 paid subscribers before the end of 1903. To do this we must have a number of competent assistants, and so have arranged to employ, with liberal compensation, at least one good solicitor in each county. The TREE AND VINE is now such a publication as any intelligent horticulturist or farmer will want in his home. It contains the best up-to date, original matter, and each department is edited by a specialist in his particular line. Its undoubted merit as a publication appeals at once to the prospective subscriber, and thus business is easily procured. One young man recently went out among his neighbors and procured twenty-six subscribers in a single day. If you can get even a fraction of this number you can make good wages.

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The Angora Goat

A Growing Industry

The usefulness of the goat has been overlooked for many years by of our people, says R. F. Robinson in the San Jose Mercury. The owners of brush lands would do well to send to the Department of Agriculture at Washington, D. C., and receive from them their recent pamphlets relative to the usefulness of this animal.

Goats of the Angora breed are now being much sought after; authorities on the subject know of no animal which can be put to so many profitable uses. At the recent meeting of the American Angora Goat Breeders' Association held at Kansas City, many hundred animals being exhibited, a yearling buck was sold for $1400. This was not paid by an amateur, but by a professional goat raiser. The standard of Angora goats is now well established and a good band of Angoras now represent quite a holding.

The merits of the Angora goat as a source of profit to the American farmer has as yet never been fully exploited.

Just mention the word goat to one of your friends casually and he begins to think of the caricatures in Puck or Judge of the goat of the Harlem variety: or possibly he thinks of the goat possessed by some secret society of which he is a member.

The meat of the Angora is hardly discernible from mutton and by many it is preferred. Many goats are annually sold for mutton. The hair of the Angora is used in the making of mohair and other fabrics. There are thousands of acres of land in this county, at present not used for anything, that would be ideal areas for the raising of goats.

The writer is aware of instances where goats have been used to clear off brush land, that this land after being planted was clearer of foul and noxious weeds and grasses more effectually than the same land was cleaned by a mattock and an ax. The goats will eat brush and stuff on a place that no other animal could live on and goats prefer seemingly to eat such brush.

There is a rancher above Alma who had a small band of goats that he fenced in a small area, and then as fast as the goats ate of the brush as high as they could reach up, he sent a man in to cut the wood down at the roots and grub the same out. He then extended his fence area until he was ready to plant that piece. He found that his goats furnished him with milk, their skins were goods for robes, and the meat was good to eat. This farmer today has no debt on his place and he says that the goat as a mortgage-raiser has come to stay and that he is and will be credited as the most useful and profitable animal on the farm today.

Goats are the poor man's cow. Goats are the best thing on brushy land to clear the place.

Goats of the Angora breed are valuable for their wool, which in this climate one shearing a year is sufficient.

Goats ought to be the coming thing on hundreds of acres of land in this county which were abandoned by families not being able to make a living on them. Goats give milk from which the finest Swiss cheese is made. Goats will pay more for the amount of their investment and the care taken of them than any other animal that we know of.

Goats and sheep do not generally do well together, but a goat or two in a flock of sheep will help to keep off stray dogs.

Goats when young need some care until about three weeks old, then after that they will be more able to care for themselves and at less expense than any other animal.

Goats are going to have the greatest boom in the memory of the oldest inhabitant, for their usefulness is just now being exploited more than that of any other animal.

The Works Bill

The Works Irrigation bill has in all probability been killed by the efforts of the people whom it was supposed it was going to help. This bill was got up at the request of the Water and Forest Association by one of their members, Judge Works of Los Angeles. It provided for the construction of reservoirs, and the acquirement of great water rights by combinations of capital, the establishment of a commission of a few men who should have absolute control of these corporations, in the matter of fixing rates, etc., very much like our present railroad commission, and in their hands was the power to decide how much water each man should use, and to deprive him of all in excess of that quantity, regardless of the length of time he had had the use of it. People who now live in an irrigated section where they are dependent upon private corporations for water, keenly appreciate the evils of private ownership and have fought this measure to the end. In an arid country the man who owns the water owns the land. It is a perpetual mortgage on the property, and one that can never be paid off. There is no escape from it, for when the land owner fails or neglects to pay his water tax, from whatever cause, his water is gone, and with it all his improvements and all his years' of labor. The man who owns the land should own the water, and the Works bill, in providing for the private ownership of this vital element of our arid sections deserved the fate it received. The appointment of a commission would be no protection to the land owner; rather the reverse. For while some commissions might work in the interests of the people where there

were such enormous values at stake as in this case, there is every inducement for dishonest politicians to force their way into the positions if possible. There is too much at stake, the lives and welfare of too many people are involved, to leave the water supply in the hands of private individuals, with a possibly venial commission under their control. What the people of the southern counties demand is that, where possible, the ownership of the water shall be left in the possession of the owners of the land, and they to manage it in their own interest. Where it is not possible for the individual land owner, or a combination of them, to carry through an irrigation enterprise on account of its magnitude and cost, then the government itself to do the work and sell the water to actual users at cost. It is urged that by this means immense areas of now arid land can be brought under cultivation, and, in their security of water, people will settle on and improve these lands and so build up the country. While, if these enterprises are left to corporations, the unfortunate land owner will have no certain tenure of his land, but be wholly at the mercy of the corporation agent, whose rule of business will be "all the traffic will bear," backed by a pliant commission, and their condition will be infinitely worse than that of the Irish farmers in their sufferings from absentee landlordism. There are many enormous irrigation enterprises that will be carried out in the Western States before many years. Practically all the fertile land in the humid sections has been appropriated, and population has been driven further and further west. It has been discovered that the arid lands, the Great American Desert of our fathers, are among the most fertile in the country, and these have been gradually absorbed as water could be had for them, until all the water supply within the reach of the ordinary capitalist is now appropriated and conveyed to the land. Now there remain some massive enterprises to be carried through, among them the diversion of the Colorado river and the reclamation of the great Colorado and Mojave deserts, and this will require an immense outlay of capital. When it is done it will make homes for thousands of people, and who controls the water supply will have absolute control over their lives and fortunes. This is why these enterprises should never be allowed to get into the hands of an aggregation of private wealth, but should be owned and operated by the government of the people for the people. Any measure looking to giving such immense power to private corporations sh uld be defeated as the Works bill has.

Fruit Growers' Convention

In accordance with a resolution passed at the last Fruit Growers' Convention, held in San Francisco in December, a spring session is to be held in Los Angeles during the coming April. At this session a specialty will be made of such subjects as citriculture, the handling and marketing of citrus fruits, irrigation and other matters of especial interest of the southern part of the State. Special rates to attendants will be given by the railroads, which will give our northern horticulturists an opportunity to attend the convention and visit Southern California at the most favorable season of the year. The exact date for holding the convention has not yet been fixed, but it will probably be during the last week in April. A vast amount of valuable information is always given at these meetings, practical ideas are exchanged by practical men, and the new facts and knowledge found at them is of great value in dollars and cents to the people who attend.

A Pear Blight

The Supervisors of Santa Cruz county have passed a strong ordinance against the introduction of pear stock from the Southern San Joaquin valley counties, where that disease is so prevalent and has done so much damage. The bear blight is not confined in its ravages to pears alone, but attacks the whole family to which the pear belongs and is almost as bad on the apple, quince, loquat and hawthorn as it is on the pear. Santa Cruz county is now the principal apple county of the State. Apple growing, in fact, is its principal horticultural pursuit, and it brings thousands of dollars annually into the county, besides giving employment to thousands of people. If the pear blight once gets a foothold in that county it will mean the ruin of its most important industry. Fortunately the county has so far been free from this dreaded disease, and the supervisors have shown the part of wisdom in strengthening the hands of the horticultural commissioners, and prohibiting the importation of diseased stock or stock from an infected district, into their county.

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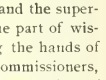

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Queries and Answers

By JOHN ISAAC

J. P. L., Petaluma.—The scale insects on the apple twigs sent in are the oyster shell barn louse, Mytilaspis pomorum. It is very prevalent in most apple growing sections, but as there are several parasites that work upon it, it need not cause you uneasiness, as it is not a serious pest.

R. P. S., Tehama.—The calymrna fig is not a variety. It is the name adopted by Geo C. Roeding of Fresno for figs from his orchard packed by him. The common and favorite so-called Smyrna fig is the Lop Injur, or sweet fig, and the name calymyrna is the copyrighted name of these figs grown and packed by Mr. Roeding.

Robert P. M., Santa Barbara.—The clematis should make a good climber for your porch and ought to do well with you This plant requires a rich, light soil, and is quite hardy. The Montana is one of the freest blooming of the clematises, and gives great satisfaction. The flowers are white. The Jackmani is purple and among the best of them.

Reader, Alameda.—The insect which you sent and which you say is troubling your house plants, is one of the mealy bugs—Dactylopsis longifilis. The best remedy is a pound of whale oil soap dissolved in four gallons of hot water. While the mixture is still warm, but not hot enough to scald your plants, they should be dipped in it. The compound may be used as a spray on plants too large to be handled.

L. R., Saticoy.—There are no available statistics giving the amount of olive oil made in this State. There are a large number of people engaged in the business all over the State, but no record of their output is kept. The importation of foreign oil, according to the government statistician in 1901–2, amounted to 1,339,097 gallons, valued at $1,579,309, so it would seem that there is yet room for our California product at home.

J. Q. M., Santa Cruz, asks about codlin moth traps which he has seen advertised. We have stated our opinion about these before in this column They are worse than useless, as they catch more beneficial than injurious insects, and no codlin moths at all The codlin moth is not attracted to the light. You will have to stick to the Paris green spray for a while yet, until something better than codlin moth traps is offered.

R. A. N., Placer Co.—There is usually a good demand for squabs in the San Francisco markets and the present prices range from $2 00 to $2.50 per dozen. The homers make the best squabs and are most profitable. With care squab raising will pay, but like other branches of poultry farming you will find that it requires constant attention and considerable skill The largest farm in this country, if not in the world, is located near Los Angeles.

E. S. P., San Mateo.—Evergreens may be transplanted at any time during this dormant period. Evergreens, like deciduous trees, have their periods of growth and their periods of rest, and during the latter their tender growth hardens and they can be more safely handled than at other times. In transplanting evergreens it is advisable to take them up with a good ball of earth on their roots; they can then be removed to their new location with the least possible shock, and if well planted and watered will continue to grow without cessation.

A. C. S., Saratoga.—The fig, to attain perfection, requires plenty of hot weather. We should not advise the planting of a large tract for commercial purposes where you propose, as the climate is too cool to bring the fruit to perfection. It would pay you best to plant a few trees and see how they do, than to devote good land, time and money to the enterprise to find out too late that you had made a mistake. In the San Joaquin and Sacramento valleys, where the temperature is high, the nights warm and the season long, fig growing has great possibilities.

W. P., Sonoma.—Tobacco may be a paying crop in your section, but unless you have had some experience with it, or can afford to make a failure, it would not be well for you to devote much land or time to it. The seed should be sown very thinly, in a bed prepared for it, and should be lightly covered with fine soil. The beds should be protected from any frost, and by the time all danger from this source is past, the plants should be about six inches high and ready for setting out. They are planted in rows about four feet apart each way, and should be given thorough and careful cultivation.

A. H. Ladd, Salida, wants the recipe for squirrel poison composed of strychnine, oil of rhodium, oil of peppermint and other ingredients. Here it is:

Strychnine Cryst	....¼ oz.
Cyanide Potassium	¼ oz.
Oil Anise	10 drops
Oil Rhodium	5 drops
Oil Peppermint	5 drops
Strained Honey	.... 4 oz.
Water	....1 oz.

The above amount is for one gallon of wheat. Syrup is sometimes used instead of honey, because, in the opinion of some, honey and cyanide, may conflict, there being danger that honey may weaken the strength of the cyanide.

A. W. R., Mendocino, sends us twigs of prune trees with red spider eggs clustered in the crotches, and asks what kind of scale it is. It is not, as we have already indicated, a scale of any kind, but belongs to the spider family. These eggs will hatch out into minute spiders later in the season, and may become a serious pest. The best remedy is sulphur, which should be applied soon after the trees are in leaf in the spring, and while they are damp with dew in the morning, thoroughly dust them with sulphur. Use sulphur bellows, or, if the orchard is extensive, fix up a broadcast seeder on a wagon. With this arrangement an orchard can be treated very thoroughly and with dispatch. Infested orchards should be treated at least three times during the spring and early summer.

E. M. R., Santa Barbara, asks concerning the tree tomato, which he says has been recommended as a valuable garden plant in the State by Mrs. Sheppard.

The tree tomato is Cyphomandra betacea, sometimes known as Satanum, from which it differs but slightly, in floral structure. It is a native of Brazil and a great favorite in tropical and sub-tropical countries. In California it is highly esteemed, and in practically frostless localities is quite well known. When well cared for it bears an immense crop of medium-sized pear-shaped tomatoes of an orange red color, richer in taste and firmer in flesh than the ordinary tomato. For the latter reason it would prove far superior to the herbaceous tomato as a shipper. We have never known a person who grew it that did not prefer it to the ordinary sorts.

A Great Business Success

The Riverside Enterprise pays a just tribute to co-operation in practice among the citrus growers of the south end of the State in a hand some recognition of their business sense:

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Live Stock and Dairy

Feeding Grain for Milk

All kinds of grain are relatively high. Taking feeding effects and cost into consideration, the following mixtures are suggested: (1) 100 lbs. bran, 100 lbs flour middlings, 100 lbs. cottonseed or gluten meal; mix and feed seven to eight quarts daily. (2) 100 lbs. bran, 150 lbs. of corn and cob meal, 100 lbs. cottonseed or gluten meal; mix and feed seven or eight quarts daily. (3) 100 lbs. corn or corn meal, 125 lbs. gluten feed; mix and feed five to six quarts daily, preferably mixed with corn ensilage. Very satisfactory and economic results were obtained at this station with the following: (1) 200 lbs. distillers' dried grain, 150 lbs. corn and corn meal, mix and feed five to six quarts daily. (2) 100 lbs. distillers dried grain, 100 lbs. flour middlings, mix and feed six to eight quarts daily.—Massa husetts Experiment Station.

The trouble with many dairymen is that they do not train their cows when they are young to be persistent milkers, says an exchange. Why should we keep a cow that will give milk only eight months of the year, and let her run dry and just board with us for four months? There is neither profit nor sense in that. The saying is true that 'the nimble sixpence soon overtakes the slow-shilling''

A comparison was recently made of mixed milk from a number of Holstein cows and from the same number of Jersey cows as regards skimming qualities. Two hundred pounds of milk from each breed was separated in each of seven trials under like condition. The average fat content of the Holstein milk was 3.77 per cent and of the skim milk .077 per cent. The average fat content of the Jersey milk was 5.65 per cent and of the skim milk .0385 per cent. In a second experiment extending over four months the cows in each breed were in corresponding stages of lactation and different separators were used. In each of twenty-nine trials 100 pounds of milk of each breed was separated. The average fat content of the Holstein milk was 3.45 per cent and of the skim milk .188 per cent. The average fat content of the Jersey milk was 5.71 per cent and of the skim milk .095.

A correspondent in a recent issue of Dairy and Produce Review, urges that buttermakers be discouraged in the high flavor craze, which is so prevalent among them: and to pay more attention to the keeping quality of their product. The claim is made that the high flavor which is sought for, and on which butter judges have laid too much stress, is but a step toward rancidity. He would have them sacrifice this "quick" flavor in a fresh product for a "low" clean flavored and good keeping quality, maintaining that such butter in a good cold storage will naturally acquire a higher flavor in time.

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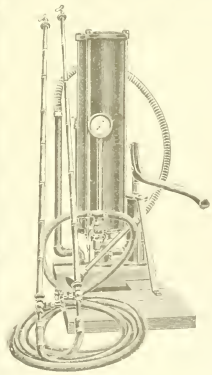

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Correspondence solicited on all matters of interest pertaining to farm life or development of the resources of this coast.

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RENEWALS.—The date printed with your name on the paper or wrapper should show to what time your subscription is paid. Thus Jan 03 indicates that payment has been received up to January 1, 1903; Feb 03 up to February 1, 1903; and so on. Some time is required after receipt of money before the date, which serves as a receipt, can be changed. If you find or believe an error has been made in the date notify this office at once.

DISCONTINUANCES.—A subscriber wishing to stop his paper must notify the publisher and pay up all arrears, otherwise he is responsible as long as the paper is sent.

CHANGE OF ADDRESS.—A subscriber wishing to have his address changed should give both the old and the new address.

MARCH, 1903.

READ the special offer to TREE AND VINE subscribers.

The business office and the place of publication of the PACIFIC TREE AND VINE is now at 18 South Market street, San Jose, in the building formerly occupied by the Herald. A branch office is maintained at Palo Alto and also at San Francisco, but the editorial and press rooms are located at the place first above mentioned.

F. W. Taylor, who has been acting chief of horticulture as well as chief of agriculture for the St. Louis Exposition, has been formally appointed to the head of both departments. Mr. Taylor is reported as an expert in this direction, as well as in exposition work. It was the fond hope of California that J. A. Filcher, Secretary of the State Board of Trade, would have had the appointment, as he should. California is one of the leading horticultural States of the Union; her exhibits at all international expositions have been noticeable features thereof, for which credit is due to Mr. Filcher, who is in every way competent for the position, for which he had the endorsement of all the fruit growers of the State and the confidence of the entire people. It is matter of great regret to our State that our wishes in the matter have not been considered by the management of the exposition.

At the present writing there is every prospect of an enormous fruit crop the coming season. Rains have so far been abundant, with every chance of later rains until May. The ground which in this section has been gradually drained of its water, until the water table sunk below the reach of the tree roots, is being filled up, and abundant moisture is assured to carry our orchards through the summer. The season has been an exceptionally cool one. Too often trees are forced into bloom in January and February by unseasonable hot weather, and the later frosts destroy the hope for a fruit crop. This season all fruit trees have remained dormant until the present. There will be no danger of blooming now until the cold weather is past, and the fruit crop will be safe. Trees are loaded with blossom buds, and unless the unexpected happens, and happens pretty badly, there will be one of the heaviest fruit crops we have ever had.

The beet growers of the San Juan Valley are complaining of the prices paid them by the Spreckles sugar factory, and are endeavoring to form a permanent organization for the purpose of protecting themselves and getting a better price for their products. "All the traffic will bear" is the rule, not alone of railroads, but of all classes of business, in fact, it is business—and this is the rule which is being applied to the beet farmers by the factories. It has been ascertained for how little beet farmers can or will work, and they are gradually forced down to that level. The matter is in their own hands. Without beets the factory could not run. Millions of capital invested would lie idle, and the companies would soon be glad to accede to any reasonable terms. Land that will grow beets will grow almost any other crop, with one-tenth of the labor, and if beet growing at prices now paid is unprofitable there is no good reason for continuing in it. We do not know whether the capital invested in these works is getting any exorbitant returns, but at a glance, in the trouble between it and the growers, it appears that it is getting the long end of the bargains.

Not before in the past twenty years has there been such extensive planting of vineyards as is now going on all over the State. In every section adapted to grape growing, whether for the table, raisins, or wine, vineyards by hundreds of acres are being set out, and the demand for cuttings and rooted vines is so great that nurserymen are having difficulty in filling orders. This condition is wholly due to good returns from table grapes in sections where they can be profitably grown, and the unusually high prices paid for wine grapes in the past three years, during which time demand and prices have steadily advanced,

reaching their highest last fall. How long this demand will continue, whether or not it will remain steady and the market for California wines be increased, or whether there will be an overproduction of grapes and wines and a slump come again, it is hard to predict; but in this as in all human affairs, the farmer has got to take some chances, and while he may lose by planting, he is certain to lose if there is a demand and he has nothing to sell. The old saying applies here as elsewhere, "Nothing venture nothing have."

Every live metropolitan daily has a prize fight editor and a horse-racing editor and others who understand every line of sport and can describe in the most approved vernacular every movement in these advanced forms of our civilization, and they never make a mistake. Bat when it comes to horticultural and agricultural subjects it is evident the devil in the office is called upon to exercise his editorial ability, as probably knowing more on the subject than any of the members of the staff An example of this delightful ignorance of usefnl things has lately been displayed in the appearance in a large number of our coast dailies of a very important item telegraphed from Nevada City stating that the Department of Agriculture had sent to that place a large number of Irish sparrows to destroy the codlin moth, which was doing such damage to apple, olive, orange and other trees. The Department of Agriculture never sent any Irish sparrows to Nevada City. It never imported any sparrows from Ireland. The codlin moth does not trouble olive and orange trees. The Irish sparrow will not eat the codlin moth. There is no such bird as an Irish sparrow. With these few exceptions the item is probably correct.

A NEW PEACH disease known as Little Peaches or The Littles, and belonging to the same class of diseases as the peach yellow and the peach rosette, is doing immense damage in the peach districts of the East. In Michigan hundreds of acres of peaches have been destroyed and heroic measures are being taken by the federal government to eradicate the blight It is predicted that many fruit growers will be practically ruined, as to eradicate the disease means the destruction of the entire orchard. "The Little" is called so because the leaves and fruit attacked shrivel up. The peaches are about the size of marbles. Growth is dwarfed and the disease spreads from tree to tree with great rapidity.

The Board of Horticulture has taken stringent measures to prevent the introduction of the yellows and rosette by quarantining against the districts in which they prevail, and it is probable that the embargo against infested sections will also apply to those affected with The Littles. It would certainly be a serious matter if any of these diseases were to obtain a foothold in our peach sections, and that they have not has been largely due to the action of the Board of Horticulture and the vigilance of its officers.

Rain has fallen in abundance, in fact rather too much of an abundance, all over the State during the latter part of January, and all fear of a dry season has been dissipated. With ordinary seasonal showers, good crops are now assured. In Northern California we have no great dread of a dry saason, for even in the season of the shortest rainfall there is precipitation enough to make fairly good crops, but in the South it is entirely different, and the specter of a possible dry year is always present, and a dry year there means almost the total failure of all field crops on unirrigated land, and also a great shortage in the irrigation water. Southern California has passed through five seasons of deficient rainfall, although there has been no actual drought. Yet she has suffered severely, many farmers have been ruined, and much grain land has had to be abandoned. Reservoirs have dried up and many quarrels over irrigating water have resulted. It is to be hoped that the present season may be a good one and that we have entered upon a new cycle of wet years that will fill the natural reservoirs and place Southern California on the safe side once more.

San Jose has set apart the tenth day of March as Arbor Day, and the Highway Improvement Club of that city has asked Prof. W. R. Dudley of the Botany Department for suggestions as to the best methads of planting trees along the public thoroughfares. He has suggested that the stretch of road between Palo Alto and San Jose be divided into half-mile sections, each to be planted with a separate species of semi-tropical trees The plan is not for a wholesale planting of trees, bnt for a system extending over several years, which will result in making the road between San Francisco and Mt. Hamilton a beantiful semi-tropical driveway.

San Jose asks the neighboring towns to co-operate with that city in carrying out these plans. The planting on March 10th will be confined to a district of one or two miles from San Jose. Deciduous trees only will be planted this year. Prof. Dudley made a special point of the planting of evergreens, such as palms, sequoias, and gums, instead of deciduous trees, because of their perennial freshness and beauty but county regulations permit planting nothing but trees of the deciduous varieties.

Monday at noon Governor Pardee signed the bill which makes the golden poppy the State flower. The Governor in affixing his signature to the bill used a stylus made from the quill of a California bald eagle, and this pen was presented to Mrs J. G. Lemmon, who has been mainly instrumental in having this flower made the State emblem.

Woman's Realm

Love From Two Points of View

Recently a daily paper, not of the yellow sort, withdrew its attention from the control of the universe long enough to preach a short sermon. The text was furnished by the conduct of some young ladies at a public entertainment. Apparently these girls considered that sentiment was ridiculous, for they laughed at every manifestation of it in the representation of life that was placed before them. According to the editorial, and the editor ought to know, these young ladies belonged to families of the highest social standing, and the editor proceeded to draw gloomy pictures of the decay of true affection and the love of home.

One afternoon a few days after the appearance of this editorial, says John Mervin Hull in the Ladies' World, an immense audience was assembling to listen to a recital by Paderewski. When the hall was nearly full, a man, not old, nor very young, passed down the central aisle of the floor almost to the front row of seats. As he turned to take his seat a woman rose to meet him. She also was not old nor very young, but she was very beautiful, and she was dressed in the exquisite and quiet manner that revealed wealth, social position and good taste. Her eyes beamed a welcome to the man. She lifted her face to him, and in the presence of three thousand people she kissed him squarely on the lips, while she slipped her arm over his shoulder and gave it a few gentle pats. It was easy to read the situation. The husband had been away from home a few days, and they had agreed to meet at the recital, and their greeting was the same as if they had been at home. There was not a trace of self consciousness in it, evidently neither of them thought there was anything peculiar about it, and the whole place was sweetened by this little scene of love unfeigned.

Both these incidents are typical. Each represents a tendency in modern life. There are those to whom all tender feeling seems ridiculous, and who do not believe there is such a thing as genuine, unfailing love of husband and wife that grows deeper as the years pass on. This tendency is strengthened by a certain class of fiction, and by the conventionalties, the rivalries, the struggles for wealth and position, and the false standards which prevail in a few social circles. It is as fatal to sincerity and true feeling as the asp of Cleopatra, and if it becomes dominant in modern life it means the destruction of love and home.

But where the poison flows, there also springs the fountain of health and beauty. The world never contained brighter examples of unfailing affection than can be found to day among the homes of all classes. Owing to special circumstances some of these instances have become well known to the whole world. The love, amounting almost to adoration, which Robert Burdette had for his invalid wife he so expressed in some of his sketches and poems that by it the lives of thousands have been made more tender and gentle. No one thinks of William McKinley without also thinking of his wife. The example of their love and their home life has been an uplift to the whole world, and this beautiful casket has for its most precious gem the unspoken words of the President's will: "My chief concern is that my wife shall have from my estate all that she requires for her comfort and pleasure."

Beauty Culture

The saying that the present age is essentially an age of beauty and "style" has been repeated so often that it has become trite, yet its commonplaceness does not in the slightest degree detract from its truth. Nowadays, indeed, it is necessary for every woman who would fain pass muster with her compeers to possess at least a fair share of personal attractiveness — wherein, doubtless, lies the chief reason for such universal patronage of "beauty" doctors, genuine or otherwise, not to mention the daily publication of columns of more or less unreliable matter anent the cultivation of beauty of face and form. Probably more women have been harmed than benefitted by the effort to follow the bewildering hints printed for their guidance, for complexion treatments and physical culture systems are not things to be lightly dallied with; but that fact will in no wise deter other eager experimenters from following in their footsteps, for—alas!—it is not to be denied that in these modern times the good things of life fall mostly to the lot of the woman who can boast of a pretty face and a graceful figure. One does not hear the old saying "Handsome is that handsome does" as often as one did a score of years or so ago, and although everybody recognizes that "beauty is only skin deep," it is pretty universally conceded that the skin referred to is very well worth having. A point, however, that few beauty-seekers appear to realize is the intimate association that exists between a cheerful frame of mind and a beautiful face. Worry of any kind is the deadly enemy of personal attractiveness, for it imprints indelible lines where there should be no lines at all, imparts a querulous and discontented expression to the features, and undermines the bodily health. Hence the woman who would be beautiful must cultivate, above all things, a calm and equable temperament, never losing her temper and never allowing herself to fret. Beauty of com-

plexion is chiefly a matter of personal cleanliness and systematic exercise, but beauty of feature and expression, which is infinitely rarer, has its main source in the well-balanced mind, the kindly, generous heart, and the pure, uplifted soul. Hence, in many instances, beauty culture is simply a matter of mind and soul culture—which, it must be admitted, is the sort of culture for which we should all be the better, whether we are beauty seekers or not.

The Coiffure

Only the woman who fully knows how to appraise the artistic values of dress is capable of realizing the importance of a becoming coiffure, yet this is one of the things that no woman can afford to underestimate, much less to ignore. Let the dress itself be never so unpretentious, or its materials never so inexpensive, the wearer may still attract admiring attention if her hair be neatly and becomingly—but, above all, becomingly arranged. There is really no excuse for laxity in this detail of the toilette, for it is assuredly within every woman's power to make the most of the natural attractions with which she has been endowed, and among these the hair is one of the most important. Of course, not everyone can have luxuriant hair, but at least everyone can have hair that is both well kept and carefully arranged—and to observe these essential matters is largely to atone for possible deficiencies in the matter of quantity, which, after all, can easily be supplied by artificial means. An appreciable aid to general becomingness in the coiffure is the addition of a well-placed flower or a smart bow—the latter ornament, however, being more appropriate for general wear than the former. The ribbon bow—black velvet for preference—is, indeed, quite indispensable nowadays to the woman who wishes to be considered *bien coiffé*, even when she is in everyday attire; but in the evening, when practical matters are supposed to give place to leisure and pleasure, the flower ornament is distinctly "the thing," delighting both the vanity of the fair wearer and the artistic sensibilities of her masculine admirers. There is, however, a touch of tender sentiment about a flower in a woman's hair that few men are wholly able to resist; hence it is for the wise woman who is conscious of this pardonable masculine weakness to make the most of her opportunities.

The Question of Dress

The question of dress is one to which every woman should give careful attention. No matter how few or how plain are her dresses, they should be selected and made with the greatest care, for nothing stamps a woman as quickly and accurately as her dress. Above all things do not have a street dress elaborate or fussy. Nothing shows bad taste as decidedly as this. We see it every day, to be sure, but it does not necessarily follow that we must do likewise. Simplicity is becoming more and more the order of the day, and nowhere is it more needed than in the dress of the women. Elaborate dresses are permissible at balls and evening affairs, but how much more beautiful are simple, graceful gowns.

The same applies to the wearing of jewels. A few, well chosen jewels are more in taste than many, even though they are of the most costly. It has been said that the beauty of a jewel is enhanced by being placed upon a beautiful woman just as much as its beauty enhances that of the wearer. This we allow to be true, one undeniably sets off the other; but a very pretty story is told of two rival beauties which proves that "Beauty unadorned is adorned the most."

The public was scarcely able to decide which was the more beautiful, a certain singer or a dancer. It so happened that they were to appear on the same stage one evening, and it was generally understood that each would try to appear more beautiful than the other. Moreover, it had always been a question as to which owned the most jewels, and it was thought that this eventful evening would settle that question also.

The dancer appeared first. She had emptied her jewel box in order to bedeck herself. She was covered with pearls, rubies, diamonds, emeralds and every precious stone. She was one dazzling blaze of beauty.

Then the singer's turn came and the crowd anxiously awaited her appearance. Soon she walked forth in pure white draperies, more angel like than human. Not one jewel did she wear, but the maid followed wearing all of her lady's jewels. The house was silenced for one minute, then the applause was deafening. Needless to say, the singer was thought most beautiful that evening.

So, let us follow the example of the singer. Let us remember that overdressed the real beauty of the beautiful woman is marred, and the plainness of the unbeautiful woman is only intensified.

Spring fashions have appeared earlier than usual this season. Even now in the shop windows light filmy fabrics are seen. The spring and summer dresses are to be exceedingly dainty and fairy-like, with much delicate trimming such as lace frills, chiffon, tucks, fagotings and hand embroidery.

In millinery much the same effect is carried out. The flat-top hat will still be worn but instead of having it drawn down over the face, it is set up on a band which raises it from the face. It may or may not be tipped to one side, according to the individual taste. Many flowers will be used in trimming, but they will all be small. A very pretty idea is to have buds on long stems and forming a wreath around the brim of the hat. Moss-rose buds are in high favor. Laces and jet ornaments will be much used also.

Household Columns

Those who walk much and suffer from tired and burning feet, will find great relief if, before retiring, they will bathe their feet in warm water in which about three tablespoons of powdered alum have been dissolved.

An excellent liquid paste for brightening windows and mirrors can easily be made at home Mix alcohol and whiting and apply it to the window or glass, then as usual rub with a dry, clean cloth. You will find that this will give an unusual lustre to the glass

One of the best ways to clean wood work is to rub it with a cloth which has been slightly dampened with kerosene. In this way all the dust which accumulates in cracks and carved portions will be thoroughly removed. This is both an excellent and quick way, but be careful not to use too much kerosene if you wish to avoid a disagreeable odor.

A domestic device which certainly fills a long-felt want, and for which we are indebted to a woman, is called the baby jumper. The invention is a sort of frame in which the child can be comfortably placed, either sitting or standing, and fixed beyond reach of harm with straps. It is suspended to the ceiling by a rope and spiral wire spring, which when weight is thrown upon it, dances the baby automatically.

It has become an established fact that carpets are unsanitary. The number of germs and microbes that settle on a square inch is astonishing when put before one in figures. It is said that in a tenement house 75 germs settled in five minutes on a three-inch surface, and that after sweeping there were 2500. It will thus be seen that any amount of sweeping will not keep the microbes away. Therefore, housewives who wish to be sanitary, do away with your carpets. Your rooms can be made just as comfortable and cozy by the use of rugs. These can be taken out and beaten frequently; then wash your floors, and so have your homes clean and healthful. You can have your carpets made into large square rugs which cover the entire center of the floor, and either paint or stain a border round the sides. A dark stain gives the room an appearance of warmth and coziness, but many prefer an oak or light color, as it does not show the dust so plainly.

Dish washing is usually considered a drudge, but if this disagreeable task were done systematically, half the drudgery would vanish. In the first place, gather the dishes on the table scraping all the scraps into one dish, and piling all dishes of similar kind together, the largest on the bottom. Place all the knives, forks and spoons in one large plate or vegetable dish. Now, your dishes are ready to carry to the sink. Have your dish pan nearly full of hot suds, then put as many dishes as you can easily manage in it. Before wiping the dishes always pour clean hot water over them, and be sure your dish towels are dry and clean, for in this way, and only in this way will your dishes wipe easily. An important thing regarding the cooking vessels is to put water in them and set them on the back of the stove as the food is served from them. This will save you that everlasting scraping and scouring of kettles. A little method in your work always saves time and strength.

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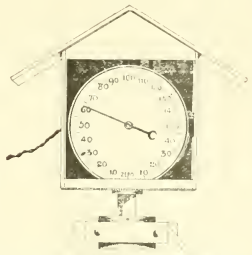

Cut shows plan of setting up the Bolton Electric Alarm Thermometer. Wires may be extended to any distance required.

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The Demand for Incubators

By A. WARREN ROBINSON

There is an ever increasing demand for incubators. Probably at no previous time has there been so many patterns of these poultry-yard necessities made as at present. Every year sees new devices put upon the market—some cheap, some excellent. One certainly has a large variety of makes to choose from; hot air, hot water, the two combined, and what not. One has an opportunity to choose according to his ideas and his purse, for there are low priced machines and those more costly. It is not good policy to get the cheap machine simply because it is cheap. A few extra dollars expended for a well made, thoroughly tested incubator is money well spent. There are machines that are made to sell. Others are made for service.

A good incubator will hatch a good per centage of eggs under circumstances that are far from perfect But the better plan is to have the room in which the machine is placed one in which the temperature can be kept without much variation. Also, the ventilation must be well nigh perfect. Too much stress cannot be placed upon this latter point. Much depends upon the evenness of the temperature, for the thermometer in the incubator room must indicate no radical changes.

Therefore the best room, probably, in our California climate, is the cellar, wholly, or as many prefer, half underground. The writer is inclined to favor the latter plan. Still he uses a room situated entirely above ground. The walls are common redwood boards, battened on the outside and lined on the inside with Cabot's building quilt, the space between the roof and the ceiling being filled in with chaff. In this room the temperature varies very little during the twenty-four hours—practically remaining about the same.

We note that a poultryman, of large experience in the Eastern States, after much experimenting, has arrived at the conclusion that an incubator room, situated wholly above ground, is preferable to those differently situated. One reason he advances is that the room can be more perfectly ventilated.

There may be a disposition on the part of not a few persons to use a cheap grade of oil in their incubator and brooder lamps. Some have adopted this plan to their sorrow. Use the best grade of oil, by all means, and avoid smoke and the charring of the wick. As regards the latter article the carbon wick, which does not smoke, gives a much better light than the common wick One will last for months without replenishing. We are inclined to think they burn less oil, though that may be mere fancy on our part. Now, this may seem a little matter, but it is in looking after the small details in the poultry business that one reaps profit.

Test out all the infertile eggs on the ninth or tenth day. Be sure not to open the door of the incubator after the first chick pips an egg. Hundreds of chicks have been killed by not observing this little matter, if, indeed, it can be called little. Be careful. One may simply let the baby chicks remain in the nursery (all well-arranged incubators have nurseries attached) for two or three days before removing them to the brooder. Don't hurry.

No food is needed for the first forty-eight or sixty hours, or even longer. We have found the best diet, at first, to be finely broken grit and charcoal. It is surprising how much of this latter article the little creatures will eat. Then, for a day, feed stale bread crumbs, slightly soaked in sweet milk and squeezed very dry. How necessary the caution not to overfeed during these early days! We are all apt to give the babies too much; feed too frequently.

Let the after feed be dry. Cracked corn, steel-cut oats, broken rice, cracked wheat and millet seed are all excellent. If these are fed judiciously, and the proper temperature is provided, the chicks will thrive, if they are of good stock. Do not omit a daily allowance of finely chopped grain and beef scraps. After the chicks are three or four weeks old, keep cracked grain and beef scraps before them all the time until they are fully developed. Nothing will make the young fowls grow faster than this diet.

Of course they must have abundant exercise to thrive well. This must be looked after from the first. Probably much of the leg weakness so often complained of is due to lack of exercise; this, and too much bottom heat in the brooder.

Miramonte Poultry Farm

Breeds the leading strains of Heavy Laying S. C. WHITE LEGHORNS

Eggs for hatching: $1.00 per setting; two settings, $2.50; $5.00 per 100.

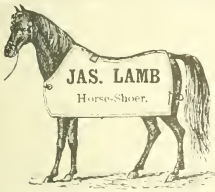
E. L. DUNSHEE - - - - Mountain View, Cal.

POULTRY AND EGGS

Wanted at **Chapman & Johnson** The Grocers

Cor. Second and San Fernando Sts. - San Jose, California

IDEAL·TREE·PROTECTOR
Get a Roll of
P.&B. Building Paper
and cut it into strips according to this design – it will fit about your trees, protecting them from animals and other injurious agents. Anyone can do it; very inexpensive. Write for a circular about our P. & B. Sticky Paint – better than printers' ink – never dries, catches the parasites.
Address Dept. V
The Paraffine Paint Company
116 Battery St., S. F.
Sold by all Dealers



19 and 21 S. San Pedro St., San Jose, Cal.
Telephone 1031 John

In all the citrus sections a great deal of top-grafting was done during the past season, mostly from less profitable varieties to the navel orange. In Tulare county, large orchards of lemon were grafted over to navels, and in the southern counties seedlings and Mediterranean sweets were worked over in large blocks. The navel is rapidly becoming the one citrus fruit of the coast.

Very often table linen is ruined by fruit stains, when if the housewife knew what to do at the right time she could keep her napkins and table clothes free from stains. Place the portion stained over an empty vessel, and pour boiling water, in which borax has been dissolved, through it, until the stain disappears. This must be done before the stain has time to dry, otherwise dip the stain in alcohol before washing.

Homers, Homers, The Kind That Home
Full extended pedigree with each bird. Now booking orders for 1902 youngsters.
Correspondence Solicited.
Stock birds for sale at all times at reasonable prices.
Crescent Lofts
B. T. McBAIN, Prop
1463 Castro Street. Oakland, Cal

L. N. COBBLEDICK.
Barred Plymouth Rocks...
Oakland, California

Twenty Premiums Won
at Oakland Poultry Show Dec. 1901.
White and Buff
LEGHORNS
Exclusively
Hayward Ave. Poultry Yard
J. F. SARMENTO, Prop.
P. O. Box 78. San Leandro, Cal

WHITE AND BROWN LEGHORNS.
Eggs, $1.00 per 13; $6.00 per 100, in incubator lots. Brown Cockerels $1.50 each.
COFFEY BROS.
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Home of the BROWN LEGHORN
Fine young stock now ready for shipment at reasonable prices. If you want HEAVY LAYERS you should have some of our BROWN LEGHORNS. Let us furnish you a trio or breeding pen. Get the best, and they will pay for themselves in a short time. LARGE BIRDS and layers of LARGE EGGS. Send for our circular. It's free.
WILLIAMS BROS., Fruitvale, California
BOX 56

La Perlita Del Monte Poultry Farm
Winners of first prizes at State Fair and Oakland Poultry Show.
Buff, White, Black and Partridge Cochins; Buff and White P. Rocks; Light Brahmas, White and Black Langshans White Wyandottes, White and Buff Leghorns, R. C. Brown and White Leghorns; Black and White Minorcas; Black and White and Buff Cochin and R. C. Black Bantams Bronze Turkeys. Toulouse and Emden Geese. Pekin Ducks. Pea Fowls and Pearl Guineas. EGGS FOR HATCHING. Write for prices and particulars. We guarantee satisfaction in all cases
T. B. C. SIELCKEN, P. O. Box 61, Calistoga, Cal.

Begin Now to feed for Eggs and you will have them to sell when others are just realizing that
EMERY'S POULTRY FOODS
did it. Ask your dealer for Emery's Poultry Foods.
All commission men handle them.
N. OHLANDT & CO.
Indiana and 24th Streets San Francisco

Klein's Patented Hot Air Furnace
and the Majestic Steel Range are the Best on Earth
Call and See Them at
Phone Red 971 53 South Second Street, SAN JOSE, CAL.

Water Fowl

By JAMES HAGUE

Do not feed young ducklings until 36 hours old. Let their first meal consist of stale bread crumbs, giving them water with their first meal. A tomato can turned upside down in a saucer makes a good drinking fount. Do not let your ducklings get wet or chilled, for it means death. Clean water should always be near for both ducklings and breeding ducks. In feeding, start cautiously. On third day feed a mixture of bran and middlings. On sixth day add a little sharp sand, and blood or meat meal. Feed just what they will eat up clean, six times a day, until one week old. Then four times a day until five weeks old, then three times a day (adding any kind of boiled vegetables) until ten weeks old. By this time they should be ready for market, weighing twelve pounds per pair. At two weeks old, start and feed a little green food, but be cautious at first. When they first taste their food they pronounce if you want size, etc. Ducks can be raised successfully without a pond of water to swim in. If your ducks, young or old, get restless at night, hang a lighted lantern in their pen. They will settle down to rest again in three minutes. You must endeavor to keep ducks quiet if you want good results. Ducks grow very rapidly, and one engaged in the business can turn his money over quickly if he or she will go into the business in a systematic manner. Prepare to make it a study and to take advantage of every good point the duck has. It is quite probable that the Pekin is the best breed for all purposes. The feathers are white and will sell well and it is said that the feathers alone will pay for the feed of a flock. The Pekin is a royal looking bird, nearing a goose in size. Ducks and chickens should never be kept on the same place, unless they can be separately fenced off. To raise ducks is no secret; there is no apparent reason why ducks should not be raised and kept on every farm. The duck has long been traduced and disliked by persons who know little about them. No bird is more patient than the duck, and none is more submissive and quiet under abuse. A small run and a low fence restrains them.

Now that the Great Oakland Poultry Show has gone by for another year, I thought it would be of interest to your readers to know something about it. Well, it was a grand show, having 1400 birds on exhibition, and the quality was good, grand and pleasing. Chickens of every variety and color were there, and ducks were there, too, having 95 ducks and 15 geese on exhibition. Pekin ducks were a large class, and of excellent quality.

Indian Runners were a very strong class, with quality to burn. Many individual birds are from the best blood in America and Canada.

Grey Calls, Black Cayugas, Blue Swedish and Aylesburys were a grand lot—not a poor specimen in the classes.

Ronens were a nice lot of ducks, having good color, shape and carriage.

The Toulouse and Embden geese were an extra fine display, and a credit to their owner.

The Buff ducks on exhibition excited much curiosity and should bring in some returns for their owner, being docile, meaty and good layers.

LIST OF AWARDS.

Pekin Ducks—Fair Oaks Duck Farm: Pen 1st, Old drake, 1st and 2d; old duck, 1st and 2d, young drake, 1st and 2d; young duke, 1st and 2d; Willis S. Rose, Pen 2d: Young Drake, 3d and 4th; Miss A. Shoricke, Pen 3d.

Indian Runner Ducks — Mrs. Plaw, Pen 1st: Old drake, 2d; old duck, 1st; young duck, 1st and 4th; young drake, 3d; Fair Oaks Duck Farm: Old drakes, 1st and 3d; young drakes, 1st and 2d; young ducks, 2d and 3d.

Colored Muscovy Ducks—W. S. Childs: Old drake, 1st and 2d; old duck, 1st and 2d; young drake, 1st; young duck, 1st; Fair Oaks Duck Farm: Old drake, 3d; old duck, 2d; young duck, 3d; young drake, 2d.

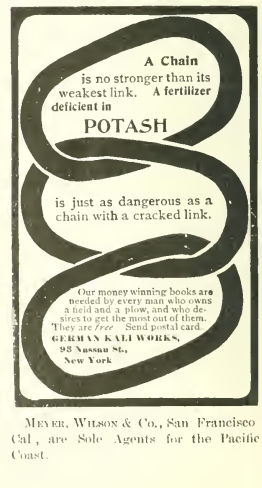
Black Cayuga Ducks—All to Fair Oaks Duck Farm.

Ronen Ducks—All to Fair Oaks Duck Farm.

Aylesbury Ducks—All to Fair Oaks Duck Farm.

Blue Swedish—All to Fair Oaks Duck Farm.

Grey Calls—All to Fair Oaks Duck Farm.



MEYER, WILSON & CO., San Francisco Cal., are Sole Agents for the Pacific Coast.

Hens in Yards

There must always be something in favor of the chickens that have a farm range. It is something that can be had nowhere else and it is liable to be abused. It is not enough to know that chickens have a farm range. There is a wider range than this in the management of poultry. The poultrymen who have the largest egg-producers are those who keep their hens in yards. These are the improved egg-machines. Fowls that are given a free rauge do not produce as great a number of eggs, for the reason that they convert a part of their capacity for forming eggs. The egg habit is a very good habit for hens to form and they are more liable to fall into this habit when they are confined than when they have a large range

Fattening Poultry

In fattening fowls for the table the bulk of the feed should be corn chops or corn meal, cooked or raw, and the birds should be confined to a very small run or a roomy coop. But they must have variety of food or appetite will fail and digestion also. A little of table scraps and something green should be given to maintain the appetite, and in coops it may be necessary to supply some grit for digestive purposes. Without these little adjuncts fowls will sometimes refuse to eat enough for the purpose of fat-producing.

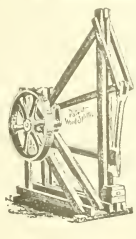
Enthusiasm is a fine thing, and whenever met with is to be admired and encouraged.

THE WISE WOOD SPLITTER

Has been thoroughly tested.

Portable or Stationary; does the work 18 men with axes. Manufactured by

A. Coonradt & Son
717 2d St Oakland
First Prem. State Fair 1901.



FAIR OAKS DUCK FARM

(Hague's Climax Strains)

Pekins, Aylesburys, Muscovies, Rouens, Black Cayugas, Gray Calls, Indian Runners and Blue Swedish Ducks. At State Fair, 1902, won Sweepstakes and 24 Premium Awards. At the Oakland Poultry Show, 1902, won 46 prizes out of 48 entries. At Roseburg, Oregon, Dec. 1902, won 6 first prizes, on 6 entries. Stock and eggs for sale.

JAMES HAGUE, Prop.

350 College Avenue, Oakland, Cal.

BLACK MINORCAS

A Grand Specialty.

I have one of the largest and finest collections of BLACK MINORCAS on the Pacific Coast. I have bred them especially for *Egg Production*, combined with Standard qualities. Have over 1,000 birds but do not care to sell any hens this season. Have some FINE COCKERELS for sale at very reasonable prices. Eggs from *finest hens*, headed by pure Northup Males, at $2 per setting of 13. From other yards of good thoroughbred stock, Incubator lots of eggs at $5 per 100, or 75c for 13.

Cedar Cottage Poultry Farm — Mrs. A. H Ladd, Modesto, Cal.

CARRINGTON'S

WHITE LEGHORNS

Win Blue Ribbons wherever shown.

Some extra fine, full grown Cockerels at $5.00 a piece. Eggs from Prize Winners, $3.00 and $2.0 per dozen, $10.00 per 100. Eggs from well bred stock $5.00 per 100.

CASTRO VALLEY, HAYWARD, CAL.

BRIGGS POULTRY FARM

BOX 25

Los Gatos, Cal.

See what is to follow.

D. D. Briggs, Manager.

Brighton Poultry Yards

Barred Plymouth Rocks

Winners of the Mayor's Silver Cup at the Oakland Show, for the best ten birds.

Royal Buff Cochin

Superb cockerels for sale.

Choice stock for sale at very reasonable prices.

A. J. SCHMITTGEN,

530 Twelfth Street, Sacramento, Cal.

White Minorcas
White Leghorns

Eggs for Setting

Very best MEAT and BLOOD MEALS
It will pay you to get my prices.

A. WARREN ROBINSON

Napa, California

Wanted: Cockerels

Three to 5 months old, *any breed*
Will purchase any number up to 1000 birds. Address,

Geldert & Tilden, Innisfail Ranch,

Alum Rock Ave., San Jose, Cal.
Telephone Number, State 31.

Berkeley Poultry Yards

White Plymouth Rocks Exclusively

I make a business of breeding these beautiful and useful birds. My birds won 1st and 2d prize on breeding pens; 1st on pullets and 4th on hens. My birds are the highest scoring birds on the coast. 1st pen scored from 93¾ to 95½; second pen 92¾ to 94; pullets 94½; hens 93. Exhibition for sale. Eggs $2.50 per setting.

George Sherman,

1611 Delaware St. Berkeley, Cal

W. A. GILBERT

OAK PARK, CAL.
Sacramento P. O....

White Plymouth ...Rocks...

A Specialty. Winners First Prize Breeding Pen Sacramento State Fair, 1900 and 1901.

Eggs in Season, $2.50 per 15

Mem. Am. White Plymouth Rock Club.

Berkshire and Poland China

PIGS

Brookside Stock Farm, Stockton

C. A. STOWE, Proprietor

Potato Scab and its Prevention

A bulletin from the Vermont Experiment Station treats of potato scab, and after a brief history of it, declares that it is due to a fungus disease which also is the same as sometimes found on beets, and that any insects found in the scab are secondary results, rather than a cause.

The fungus is probably not a native of our soils. Its germs occur in great numbers on scabby potatoes, and may cling to the surface of smooth tubers. Much of the loss from scab is directly due to the use of infected seed. When the fungus is not present in the soil a crop is assured if clean seed is used.

Certain soils are entirely free from it when it is not introduced by the use of seed that has the germ. The putting of scabby potatoes in the soil or in the manure may spread the disease, but one trial of feeding scabby potatoes to young cattle and then using the manure did not result in scab on the potatoes grown on it.

It is not known how long the infecting fungus may remain in the soil. Disinfected seed upon land where neither potatoes nor beets had been grown for seven years or longer produced fifty per cent. scabby potatoes on some parts of the field.

Heavy soils, whether of clay, muck or vegetable matter, have been found favorable to growth of scab, perhaps because more moist than other soils, and the use of stable manure, soda ash, carbonate potash and magnesia seem to cause more scab, while common salt, land plaster, commercial fertilizers, sulphate of ammonia, nitrate of soda, kainit, muriate or sulphate of potash do not increase it and sometimes seem to check it. An acid soil, such as results from plowing under a green crop, seems to check the scab, while lime or wood ashes may increase it.

Some varieties of potatoes with rough skins are less subject to it than the smooth skins. Of seven varieties tested the Early Rose had most scabby potatoes, and others of the Rose type were among those badly affected.

Preventives are avoiding such manures as promote scabby growth, and treating the seed either with corrosive sublimate, one ounce dissolved in one gallon of hot water, taking ten to twelve hours for dissolving, and then reducing with water to seven gallons, in which the seed is soaked for one and a half hours, or the soaking it in a mixture of half pint of formalin in fifteen gallons of water. Among the objections to the corrosive sublimate are, that it is poisonous to man and beast internally, and might be bad for the hands if flesh was cut, and the time needed to dissolve it. The formalin at present prices costs but little more, and is not dangerous. A pound or pint of it would disinfect fifty bushels of seed potatoes if properly used, soaking for two hours in it. Germination is not hindered by it as by the corrosive sublimate, and it may be used in metal kettles if desired, while the sublimate should be either in wooden or earthen receptacles. Exposing seed to sunlight for several weeks before planting hastens the germination and also helps to reduce scab. Sulphur on seed or burned among seed has not proved satisfactory.

Subscribe for the PACIFIC TREE AND VINE.

JEWELER AND SILVERSMITHS.

CHAS. A. BOTHWELL—112 SOUTH FIRST street, San Jose. Phone Black 1542.

CATALOGUE ON APPLICATION.

Redwood Fruit Boxes

All sizes — stock on hand or to order.

WOOD AND COAL

also furnished at the following prices:
Redwood, per carload.... $3.75 per cord
Pine wood, per carload.... $5.75 per cord
Oak wood, per carload.... $7.00 per cord
Screenings, per carload.... $5.00 per ton
Lump coal, per carload.... $7.00 per ton

NOTLEY WOOD YARD

OFFICE:
Corner Park Avenue and Narrow Gauge R. R.
'PHONE, RED 1202.

San Jose Tent and Awning Co.

Cor. 4th and Santa Clara Sts.

Telephone, Red 1053. San Jose, Cal.

Manufacturers of awnings, tents and waterproof canvas covers. Latest crank and fancy awnings and double rollers. Window awnings for residences a specialty. Tents for rent.

H. D. ANDERSON, Prop

TREES

Soft Shell Walnut
Olive, Almond and Fig

APPLE
CHERRY
PEACH
PLUM
PRUNE
APRICOT

GRAPE VINES
LOGAN BERRY
MAMMOTH BLACKBERRY
STRAWBERRIES, RASPBERRIES
CURRANTS and GOOSEBERRIES

Seeding Peach Pits, Hard Shell Almonds

Myrobolan Plum Pits Mazzard Cherry Pits Pear Seeds, Etc.

Correspondence Invited. 1903 Catalogue Free on Application.

TRUMBULL & BEEBE, Seedmen and Nurserymen

419-421 Sansome St. San Francisco

Recent Analysis of Cured Prunes

A recent analysis of cured prunes at the University of California resulted as follows:

The cured prunes ran in size, number to the pound, as to variety: Sugar, 32 6; Imperial, 37.8; Robe de Sergeant, 41.2; French, 50.4; Splendor, 50.4.

The Splendor prune had the smallest percentage of weight in pits, 10 per cent. The Sugar and French had the same, 13 per cent, the Robe de Sergeant, 15, and the Imperial 16 per cent.

The percentage of sugar was as follows: Sugar, 49.5; French, 45 4; Robe de Sergeant, 39.1; Splendor, 39.1; Imperial, 37.9.

The marketable apple stock in the Pajaro valley is about closed out. A tour of the packing houses, it is reported, disclosed the fact that there is not over six carloads of apples on hand, and this fruit is being shipped to San Francisco.

The receipts of American and Canadian apples at Liverpool for the week ending February 4, amounted to 7,038 barrels, a total for the season of 1,075,984 barrels, as compared with 324,063 barrels a year ago.

Apples are said to be moving slowly in Pittsburg. Some dealers who stored heavily are expected to be down with nervous prostration before they get out from under.

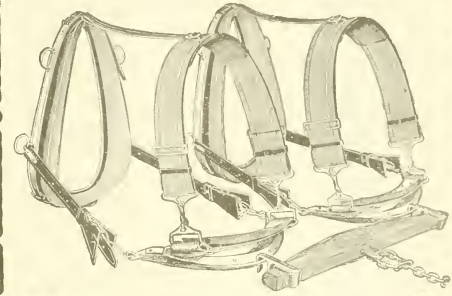
Tremendous efforts are being made in the East to clear out apple stocks and shippers are sending abroad all that the European markets will take.

Berry Plants

Logans, Mammoth blackberries (Waters strain) and Gray's Gardena Dewberries. Those plants will please you. Write for prices. W. J. Embree, Rural Box 61, El Monte, Los Angeles Co., Cal.

BAKER'S

TRACELESS HARNESS



No Whiffletrees—No Traces

This harness is indispensable to every fruit grower—every gardener or orchardist. Saves time, labor and patience. Pays for itself many times over every season in the saving of injury to trees and vines and damage to growing fruit, which always occurs from the use of ordinary whiffletrees and traces. One of the handiest of farm equipments.

We have hundreds of testimonials from every State, like the following:

Elgin, Cal., July 5, 1902.

Dear Sirs:—I put your harness on a span of horses that weigh close to 1400 lbs. They broke centers in a vineyard on two weeks at a time and seemed not to notice **that they were in a different harness.** I drive one in a very nervous horse. I never had so much pleasure in plowing as I did with this harness. No broken vines, no stepped over traces and no traces to catch. It makes cultivating plowing a pleasure instead of hard work.

L. F. ERICKSON.

Don't delay—write us today for illustrated catalogue of this valuable harness, mailed free. Live agents wanted everywhere.

B. F. BAKER COMPANY, 219 Main St., Burnt Hills, N. Y., U. S. A.

HOOKER & COMPANY, Distributing Agents,
16-18 Drumm St., San Francisco, Cal.

TREES

The Garden City Nursery

OPPOSITE CITY HALL

Offers Apricots, Almonds, Plums, Logan and Mammoth Blackberries, Rhubarb, Currants and Gooseberries. Descriptive price list free. WM. KELLY, Proprietor

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J. J. BLACK, Consulting Electrical Engineer — Telephone Green 541

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Plans and Specifications promptly attended to. Estimates given on Electrical Wiring and Installations of Electric Light Plants and Motors. Medical Batteries, Static Machines, and Dental Motors a specialty. Electric Elevators. Private Telephone and Telegraph Lines. Fine Machine Work and Models for Patents. Bicycle Repairing.

The Profitless Cow

The profitless cow is a subject that has been harped on now for a good many years, but we are sorry to relate she still remains in the land. A cow census would show that so far as the farmer is concerned, half of the cows could be sent to the butcher without loss to their owners. The public would of course, be the loser, for a definite amount of milk would be taken out of trade, and the remainder would be in such demand that the price would be enhanced. On the farmer's side, however, the result would mean profit. Ultimately the general public might get its milk as cheah as at first, for the poor cows would no longer produce poor cows, but the entire supply of calves would come from profitable milkers Now, year after year, the farmer puts a certain sum of money, in the way of feed, into his cow, and gets back the same sum. He throws in his work. Most of the men that are doing this do not know it, for they have never kept an account of what they are doing. They have no idea as to the results from their milking operations. They take it for granted that the hard work they are putting in is profitable. Little by little the poor cows are being weeded out of the herds, but progress is slow. We need to use more universally the milk scales the Babcock test and the lead pencil.—Australian Farm and Home.

Farm Animals Increase

An impressive illustration of the increase of actual wealth that has been going on in this country during the last few years is shown in the estimate of the number and value of farm animals at the beginning of 1903, just issued by the statician of the Agricultural department According to his fignres there was a gain of 487,573 in the number of animals over the previous year, and a gain of $119,345,450 in their value.

N. OHLANDT & CO'S

Fertilizers

GRAPE FERTILIZERS NITRATE OF SODA
PRUNE FERTILIZERS SULPHATE OF POTASH
SUPERPHOSPHATE, ETC.

Send for our 32-page catalogue and Spraying calendar, free.

FRED R. COOK, Agent San Jose, Cal.

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Timber Lands, Mines, Stock Ranches etc., anywhere on Pacific Coast
Fire, Marine, Life and Accident Insurance
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The De Laval Separators

Will save their cost each year over and above that which is possible with any other separator or system.

Send for our New Catalogue of De Laval Separators and Dairy Supplies.

A valuable treatise on Butter Making on the Farm by C. P. Goodrich, mailed free

The DE LAVAL DAIRY SUPPLY CO.,
217, 219, 221 Drumm Street, San Francisco.

TYPEWRITER FREE AT YOUR HOME!

Our Shorthand Students are writing 150 words a minute. Our Teacher is a PRACTICAL REPORTER. Give us a call.

THE PACIFIC COAST BUSINESS COLLEGE

Market and Post Sts., San Jose.

SIX-MONTHS' COURSE, $50. H. E. COX, Prest.

Enlarging the Plant

The Alden Anderson Fruit Company of Suisun, is again enlarging its already large cured fruit packing house. The main additions at this time are in the box factory and packing rooms, necessitated by the rapid increase of this branch of the business.

Cuban Fruit Company

There was recently incorporated at Trenton, N. J., the Cuban-American Land and Fruit Company. The capital stock is placed at $5 000,000, of which $2,000,000 cumulative preferred, to develop lands, operate plantations and deal in fruit in the island of Cuba.

Over 3,000 boxes of apples were packed and shipped from Arroyo Grande this season.

— Established 1876 —

Myrobolan Nursery

Hayward, Alameda Co., Cal.

JAS. O'NEILL, Prop

Deciduous Fruit Trees grown without irrigating and free from insect pests and disease.

Apricots, Plums and Prunes on Myrobolan Roots a Specialty.

An advertisement of the Baker Traceless Harness appears in this issue over the signature of Messrs Hooker & Co. of San Francisco, as Western distributing agents, which should call out a quick response from our readers. Though adapted to general work in the open field, its special work is to save the trees and shrubbery in ploughing and cultivating in the orchard. It appeals strongly to every man who has ever been annoyed by traces skimming and scratching his trees, and that includes everybody in the fruit business. A booklet proving its peculiar value to fruit growers by a long list of strong testimonials may be found by writing the above firm. See advertisement for local address.

M. H. HIBBARD

Carriage Painter

All work guaranteed first class. Dealer in second-hand CARRIAGES of all kinds

450 W. Santa Clara St., SAN JOSE, CAL.

Pacific Carriage Factory

L. T. CLAUS

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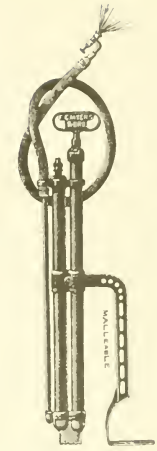

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SIX DAY BICYCLE RACE

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Distance, 2477 Miles, 3 Laps

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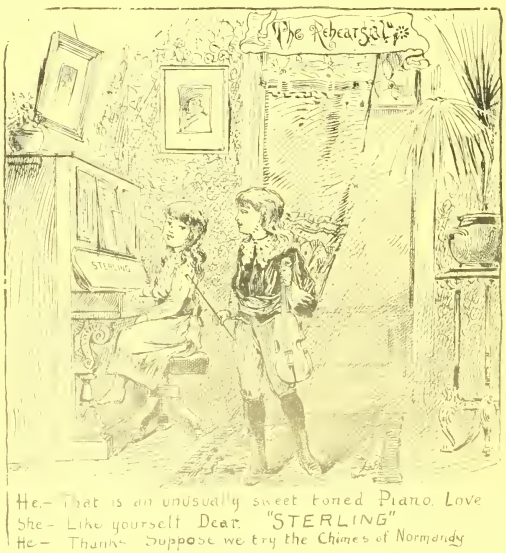

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The PACIFIC TREE and VINE

SAN JOSE, SANTA CLARA COUNTY, CALIFORNIA

APRIL, 1903

KEEP YOUR EYES ON PALO ALTO

Palo Alto Real Estate

Houses Sold during 1902
by J. J. MORRIS

56

If you are desirous of selling your home, list same with us. We have inquiry for houses from four to ten rooms. We are expecting an active spring trade. Our list is low at present.

$8,500—A beautiful home in Palo Alto. Large 2-story house of nine rooms and bath; all modern conveniences. Large lot — 150x280; family orchard; excellent neighborhood. Good value at $10,000. 29

$3,500—2-story house of seven rooms and bath; modern improvements. Location, Waverly street near University avenue. 42

$2,750—Seven rooms and bath. Waverly street near Hamilton avenue. Splendid bargain. Good value at $3,250. 56

$3,600—Ten rooms and bath. Large lot, centrally located. A very comfortable home place offered for sale at a sacrifice Good value at $4000.

Town Lots and Farm Lands

Palo Alto—A place for your money where it will increase; I'll give you value for value in real estate; will make your money go as far as it ought, and get for you that which will increase your possessions; in town or out I have some very attractive pieces of property that will be worth owning.

Unimproved Town Property

Palo Alto—One whole block of land, splendidly located; can be subdivided advantageously — you had better see me about this soon.

Palo Alto—Another splendid bargain, ½ block of land, sightly located. This ½ block is to be sold this week—first come, first served. Chance to make a nice turn on the money invested.

Palo Alto—¼ block of land, location desirable, must be sold on or before the 28th inst. For a cash transaction this ¼ block can be purchased at a very low figure.

Palo Alto—A choice residence lot, close to Episcopal church on Hamilton avenue, 100x200, cheap. This is one of our best locations.

Palo Alto — 100x200 on Hamilton avenue; am offering this lot for $1000—the cheapest lot offered for sale in Palo Alto considering location.

Palo Alto—Lot 100x110, close to University avenue on Ramon street. Chance for a good investment. This property ought to be looked at. Must increase in value.

Improved Property

Palo Alto—Cowper street, sunny side, 10-room house, modern and attractive, large lot, splendid barn. See me about this piece of property, it is to be sold at a bargain.

Palo Alto—2-story house of seven rooms and bath, on Cowper street, to be sold furnished. This property is now rented and pays about 12 per cent per annum.

Palo Alto—9-room modern house, large lot, family orchard, 150x280: this property must be seen to be appreciated.

Improved and Unimproved Acreage Property

$4,400—22 acres of land adjoining the town limits of Mountain View. Good soil, desirable for residence or orchard purposes. 146

$5,250—13.90 acres on Giffen avenue, 7 acres of prunes and 5 acres of apricots in full bearing. New 8-room 2-story dwelling with closets, bath, etc. New modern barn, well and pump. Very convenient to Stanford University. Terms, ½ cash, balance on time. 147

$6,000—10-acre improved place, 1 mile from Mountain View and 3 minutes walk from Castro station, on a good corner; 5 acres of French prunes 7 years old, family orchard, 5-room house, large barn, tank, windmill, chicken house. Terms, ½ down, balance 3 years' time; title perfect.

$7,000—A beautiful home of ten acres best land in Santa Clara valley, planted with apricots 2 years old; 2 miles from Stanford University, and 1½ miles from the depot, fronts on the San Francisco road, house of 9 rooms, bath and cellar, nicely furnished, windmill and tank-house of 2 rooms, laundry, water piped over the place, vegetable garden and family orchard, large barn; chicken, pigeon, rabbit and dog houses; ranch is well fenced, fine double team, single and double harness, fine spring wagon, good road cart, tools, implements and wood. Insurance, $3,500. 19

$12,000—83 acres, 4 miles from Mayfield and Stanford University; house of 11 rooms, barn for 6 horses, water from spring. This is in the foothills and is a very pretty place. Terms, ½ down and balance on long time. 26

$6,000—14½ acres between Mountain View and Mayfield, all in bearing prunes; 350 Robe de Sargent prunes 100 grapevines, 10 acres French prunes, family orchard, 3-room house, fruit house, good well, 600 trays, fruit boxes, track, cars, and all necessary apparatus for drying fruit, fine large oak near the house. Terms easy. 18

$6,500—34½ acres of land near Santa Clara; 6 acres prunes; 1½ acres apples and pears; house, barn, tank and windmill; all necessary outbuildings. 44

$2,200—5 acres in bearing prune trees, on the Springer Road, 2 miles from the town of Mountain View; 4-room house and basement, well, pump, small barn, and nice oak trees. Splendid neighborhood: terms part cash. 65

$1,750—5 acres on Moody road about 2 miles from town, planted to bearing orchard, about two-thirds apricots and one-third prunes, free from frost, and very desirable for residence purposes; easy terms. 86

$12,600—A 60-acre home on the Homestead road, about 5 miles from Mountain View, in the warm belt, planted as follows: 25-acre prune orchard in full bearing, 30 acres young apricots, 2 years old. There is a 7-room dwelling with bath, etc. large barn, windmill, tank, tank-house, and all necessary outbuildings. The buildings are surrounded by elegant live oaks. It is well located and would make an elegant home. The orchard is in first class shape and can be purchased in 10-acre subdivisions at the following prices: Bearing prune orchard, $250 per acre; 2-year old apricot orchard, $200 per acre. 93

$4,500—10 acres on the Moody road, planted to bearing Salway peaches, 2-story, hard-finished house, tank, windmill, barn and cellar. This is very desirable property, situated in our best fruit and residence section, and very desirable. 122

125 acres of land 3½ miles south of Palo Alto, $135 per acre. Best fruit belt in Santa Clara county, surrounded by fine homes. 201

125 acres of the best fruit land in Santa Clara valley 3½ miles south of Stanford University, warm belt, excellent neighborhood.

J. J. MORRIS

Palo Alto - - - - California

Entered at San Jose Post Office as Second-Class Mail Matter.

The Pacific Tree and Vine

Published at 18 South Market St., San Jose, Cal.

VOLUME XIX. NUMBER 49. APRIL, 1903. MONTHLY, 50 CENTS A YEAR.

How Insect Pests Are Kept Out

An Address Delivered by Alexander Craw Before the Agricultural Club of Berkeley.

It is an accepted scientific truth that the worst of our insect pests are those which have been introduced among us from foreign countries. It is also a fact, well known to science, that in every country to which an insect is native, there are other insects, parasitic or predeceous, which prey upon it, and keep it below the danger limit, and while there may be seasons in which some species of insects increase more rapidly than others and for a time seem to be a threatening danger, nevertheless their checks soon overtake them and they are removed from the list of active pests, their depredations being on too small a scale to do very serious damage. It is on the basis of these two facts that the operations of the Quarantine Department of the State Board of Horticulture have been conducted. First, to keep out of the State all new pests; secondly, to discover and introduce the natural enemies of those which have already obtained a foothold here.

In the conduct of the first we have a very thorough system of quarantine established, and it is very difficult to bring plants into the State until they have been first examined and passed upon by an officer of this Board. Under our law it is required of all transportation companies that they notify either the Chief Horticultural Quarantine officer, or some of his assistants, of the importation of any trees, shrubs or nursery stock into the State. In San Francisco, or any county where there are no Horticultural Quarantine Guardians, this information is sent to the main office. But in those counties where there are Boards of Horticulture, the local officers are notified.

Most of the fruit growing counties have their County Boards of Horticulture, and in the more important fruit sections, these County Boards divide the County into Districts and a Local Inspector is appointed for each district. Under the law their labors are confined to local work and their powers are abridged.

To overcome this, they have received commissions from the State Board of Horticulture as State Quarantine Guardians, so that they can act in the dual capacity of county and State officers. By this means, we are enabled to inspect all stock that finds its way into the State. This is all carefully examined. If it is free from pests it is released, but if found infested with insects or diseases, it is dipped in some solution or fumigated with hydrocyanic acid gas, or destroyed altogether, as the case demands. There are some pests that we have not got in the State and which cannot be certainly killed by any of our processes; with these, no chances are taken, but they, with the plant on which they are found, are destroyed by burning. After treating infested stock, if there is any doubt as to the destruction of the pests, it can bo held in quarantine until there is no further doubt of the cleanliness of the plants, when they are released. By this means we have succeeded in keeping more serious pests out of the State than we now have in it, and it is hard to state what would have been the result had our doors been open for the admission of any and everything that came along. All the pests with which we have to contend and which have cost the fruit growers so many millions in loss and labor, have been imported into the State, and all of them before our present effective system of horticultural quarantine went into effect; since then, none have found a footing here, although hundreds have been stopped from entering. To mention a few of our imported pests, we have the San Jose scale, probably from China, the cottony cushion scale from Australia, the codlin moth from Europe, the red scale of the orange, from China, the black scale, the soft brown scale, the brown apricot scale, and in fact the whole list that have been destructive to our fruit interests, these have all found entrance to our State from the outside before there was any means to stop them at the entrance, and I need not remind you what these undesirable immigrants have cost and still are costing us.

Having got these pests, the next great thing was to get rid of them or at least reduce them to a state of "innocuous desuetude." To this end we have endeavored to discover their native land, to trace their wanderings until they landed on our hospitable shores, and when we have found this place we have always found that they existed in very limited numbers, and sometimes even it was difficult to find them at all. In the case of the cottony cushion scale, for instance, which we knew positively came originally from Australia, when Mr. Albert Koebele went there to find its natural enemy he was laughed at, as the cottony cushion scale was hardly known there, and its natural enemy was not known at all, of so little importance in its native land was this insect, which at that time was such a terrible scourge to the orange growers of California. But Mr. Koebele well knew that inasmuch as the scale did not spread, and as it was not a pest there, that there must be some natural enemy at work upon it, and he perservered until he discovered what he was searching for, and the result of his labors is shown in the orange shipments from California today, for it is safe to say that were it not for the work of the Vedalia cardinalis on the white scale, there would be no oranges now produced in California. So, having found the native habitat of our enemies, which has not always been an easy task, we have next sought for their parasites, and have found, introduced and distributed a great many, some of which have done excellent work in reducing the number of the injurious pests. So thorough has been the work of parasites on the scale insects of this State that we may say that we have but two scales that can now be regarded as really bad pests; these are the purple and the red scale, and on the latter there are now parasites at work from which we have great hopes. The black scale, which has been a serious pest over the greater part of the State, has now disappeared over the larger portion of Northern California, while the brown apricot scale has met its match in the Comys fusca. In the soft brown scale we have several parasites, and the San

ase, which at one time threatened devastation to our orchards, has succumbed before the attacks of its internal foes. With all that we have to contend against, it is a fact that California is freer from serious pests today than any other fruit growing section of the Union, and this has been due to the wise legislation and the thorough quarantine system that has protected us and prevented the introduction of new pests for many years past and enabled us to largely get the old ones under control.

Bordeaux Mixture.

Now is the time to apply Bordeaux mixture for any or all the fungus diseases which attack fruit trees, such as apple scab, curl leaf of the peach, shot hole fungus of the apricot, etc. As many of our readers may not have the formula at hand, we reproduce it here for their benefit :

Lime (best unslaked) . . . . . 6 pounds
Sulphate of copper (bluestone) 6 pounds

Directions.—Let the lime be fresh. Slake in hot water. Use small quantity of water at first, gradually adding until you have 25 gallons. Allow this to cool.

Dissolve the Bluestone in 25 gallons of water (will dissolve quickest in warm water). When cool add this to the lime solution, stirring thoroughly while mixing. For smaller quantity use the same proportion. Use only wooden vessels for preparing and holding this mixture.

Memo.—For apple scab and curl leaf it should be applied in the Spring, a week before the leaves start, and again when the fruit is about one-half inch in diameter. Then again about three weeks later. Ordinarily this will be sufficient to check the disease, but if the season is damp and foggy the number of sprayings should be increased.

For curl leaf of the peach, apply same as for apple scab.

Potato Blight.—This mixture has also been found good in preventing potato blight. Apply with a spray pump in all cases.

THE SEASON for fighting the codlin moth is here. In the apple orchard eternal vigilance is the price of saleable fruit, and it now behooves the apple orchardist to get out his spray pump, secure absolutely pure paris green, and open fire on his greatest enemy. Spraying should commence as soon as the little apples are forming, soon after the petals drop from the blossoms. All of the first crop of moths should be caught at this time, if possible, but as some may escape, or your neighbors may not attend to their business, and will furnish you a fresh start, spraying at intervals of a few weeks will be necessary, until the fruit has ripened.

The Household Realm

To remove grass stains saturate the spot with kerosene before washing.

Dry cornmeal rubbed on soot stains before washing will remove them.

To remove iron rust soak the spots with lemon juice, sprinkle with salt and bleach for several hours.

If a chimney catches fire, a handful of salt thrown in the stove and the lids left off for several minutes will generally suffice to put out the fire.

For chapped hands the following preparation is excellent: Put quince seeds in a bottle and pour over enough whiskey to cover them. After this thickens, pour over more whiskey until it is of the right consistency.

Babies are often troubled with hiccoughs, and while it is nothing serious, yet it should be attended to at once. The best way to stop them is to pat the baby lightly but suddenly on the back, then give him a very little sugar dissolved in hot water. A little peppermint will do as well. Hiccoughs are often cased by allowing the baby to take his food too rapidly.

Flowers in a room have a refining as well as a refreshing effect, yet it is sometimes difficult to keep fresh ones continually. A good suggestion is to dig up enough violet plants in full bloom to fill a glass or china dish. A soup dish is a good shaped one. Keep the plants well dampened and they will bloom for about two weeks. As soon as their beauty is gone, replant them in the garden, where they will grow again, and dig up other plants. Any small plants such as pansies or mignonette will do as well as violets

Few housekeepers really know how to cook genuine baked beans. Many think they do. The real secret lies in the length of time given them to cook. The preparation is simple enough. Clean the beans thoroughly and place them in plenty of cold water over night. In the morning pour off the water, put the beans in the bean-pot, and cover with hot water. Place in the oven and bake at least twelve hours. The longer they bake the better they are. After they have cooked for some time, salt them and add a piece of fat salt pork. Beans baked this way are delicious and are even better at the second meal than at the first.

The development of likes and dislikes of children for different foods is usually the fault of parents, although they seldom realize it. It is a child's nature to try and see how far he can have his own way. You place food on his plate and before he tastes it, or knows whether he likes it or not, he pushes it away, and tells you he doesn't like it. Sometimes he tells you this because he sees some "goodie" he wants more than the substantial food you offered him. It is right here that parents are at fault, for too often they give the child the "goodie" that he asks for. No well prepared, wholesome food should be refused by the child. Give him his choice of eating what you give him or of going without until next meal. He generally prefers eating the food prepared for him. By giving him only what he says he likes, his stomach is often ruined, as we all know, because children crave sweets and pastry.

Milk Flour.

Some time ago we gave a brief account of this new invention. A telegram from Stockholm, Sweden, gives the latest information about it as follows : "The 'exsiciator,' the newly invented machine for extracting 'milk flour' from skimmilk, has withstood all tests in the dairies of the world, and will shortly be placed beside the separator, as an article of utility. It is estimated that the invention will yield a profit to the Swedish dairy industry of $2,000,000 annually. A machine capable of working through 2,000 quarts of milk in ten hours will cost from $1,000 to $1,200. A limited company of Swedish capitalists has obtained patents in most foreign countries."

We have

All kinds of implements and tools; tools required for the Orchard, the Vineyard, the Farm or the Shop.

We have

Dairy and Poultry supplies. We have, in fact, almost everything, and our prices are right.

The . Farmers . Union

San Jose, Cal.

The Fruit and Flower World

The Fruit World of Los Angeles is responsible for the following statement :

"The distillate tree spray, which has proved so successful in fighting scale on the citrus trees of Southern California, is now being used on the apple orchards of Watsonville with success against the cottony cushion scale. Stearns Bros. will probably move their battery of machines to the northern fields when the time for fighting codlin moth begins."

Apple growers whose trees are infested with "the cottony cushion scale" will be glad to know that the distillate spray is a remedy for it. Any spray of this kind is worthless for codlin moth, but it might be effective for "cottony cushion scale on apple trees" whenever you can catch them there.

Great claims are always being made for the apple, and perhaps it deserves some of them. Everybody ought to know that the very best thing they can do is to eat apples just before retiring for the night, says the "Family Doctor," and further states that "no harm can come, even to a delicate system, by the eating of ripe and juicy apples just before going to bed. The apple is excellent brain food, because it has more phosphoric acid in easily digested shape than any other fruit. It excites the action of the liver, promotes sound any healthy sleep, and thoroughly disinfects the mouth. This is not all; the apple prevents indigestion and throat diseases."

Get out your spray pump, secure a first class article of paris green, and get ready to commence the annual warfare on the codlin moth. Apple trees are coming into blossom, and in a few days more the small fruit will be forming. It is at this time the codlin moth commences its summer work, and has got to be caught in the act. If left too long the young grubs will be hidden beneath the surface and safe from all attacks of spray pumps and poison.

While the greatest danger from frost is now past and danger from that source grows less every day, it will be well for our fruit men to remember that serious freezes may, and do often occur until past the middle of April. We are not by any means safe from killing frosts until the 20th of that month, when we may safely assume that all danger is past. Now, while a frost at this time might rather do good than harm in the orchard, by knocking off some of the superfluous fruit with which the trees promise to be loaded, it is just as well not to risk it too much, as nature is sometimes indiscriminating and often takes what we want left. It will be the part of wisdom, therefore, on the part of our orchardists to see that their smudges are in readiness and keep a sharpeye on the weather clerk during the month of April.

Copious rains during March have put a clincher on the good season. We have often had seasons of more copious rainfall, but never one in which the rains were more evenly distributed, or from which more benefit has been derived. Crops of all kinds are in first class condition, and the outlook for the farmer was never better than at the present time.

W. A. ROUSE & CO.

PRODUCE COMMISSION MERCHANTS

Dealers in Fruits, Potatoes, Butter, Eggs, Cheese, Poultry, Etc.

476 11th St., : Oakland, Cal.

TELEPHONE JOHN 1541

INTERESTING TO FARMERS.

One of the worst pests of the hop yards of Oregon has been the hop louse, or aphis, which injures the crop in two ways, by sucking the juice of the plant, and by weakening it, reducing the quantity, and also by discoloring the hops and rendering them of inferior quality. California escaped this affliction for many years and it was hoped that the pest would not find entrance into our yards, but it has been discovered recently and while not nearly so destructive as in our sister state, it promises to become serious enough to demand constant watchfulness and the applications of remedies to prevent its spread. Dennis H. Stoval, an Oregon man, states that there are two sprays, one especially, that can be used to advantage. Kerosene emulsion, one part to 30 parts water, is a good spray for lice-infested hop vines. Some who have used this spray claim that they seriously injured their hop plants by so doing. However, this should not have been.

Kerosene, if not rightly handled, is a dangerous agent to plant life.

Another excellent spray for lice-infested hops is the resin wash well known to orchardists. This wash is terror and sure death to all forms of plant lice, no matter whether they be on hops or trees. Its special value lies in the fact that in a weak form it may prove fatal to the tender-bodied lice, and at the same time not kill the predaceous insects which feed on them, and are found among them in considerable numbers. The following is the method of mixing resin wash:

To three pounds common washing soda add four pounds resin and one gallon water. Heat until dissolved, and while boiling gradually add four gallons hot or warm water, stirring all the time, and continue the boiling until the mixture is the color of strong black coffee. When wanted for use, warm and dilute with cold water; for any other aphis, one part wash to ten parts water, which applies to the hop louse.

The Federated Trades of San Jose at a recent meeting denounced the effort now being made to induce farm laborers to come to California as antagonistic to union labor and an effort to break up the unions, and asserts that there is now all the labor in California that can obtain employment. This will be news to the fruit growers and packers, the wheat growers and hay farmers, to the hop men and others who are dependent upon farm labor and who lost some ten per cent of their crops last season because sufficient help to gather them could not be obtained. There is too much of the dog-in-the-manger about some of these labor unions. There is more work than can be done by them or a class of work which they cannot do, and they are determined that no one else shall do it. There is no antagonism between the farmers and the unions; there is no reason why the farmer should desire to break down the unions, and this attempt on the part of the San Jose Federated Trades to keep farm labor out, for fear that it might somehow at some time interfere with their demands, is, to say the least, verry narrow and presumptous. Farm labor is needed in California, and needed badly. We have worked hard to secure white men, and good reliable white men are always to be preferred, but so hard is it to get this class that many of our fruit growers are already favoring the relaxation of the Chinese exclusion act, and efforts like this on the part of the Federated Trades will go far to converting others to this view, and when members of an industry representing an income of $150,000,000 annually become unanimous in any demand, they will be pretty apt to make Congress hear them.

One of the greatest blessings which modern legislation has bestowed on the farmer has been the rural delivery system. The farmer, living remote from the busy centers of trade, is now in continuous touch with them by means of the daily mail which finds its way to his door. He is no longer out of the world, but in constant touch with it. The daily papers reach him usually on the day of publication, he is posted on the markets and on all the happenings of the outside world, and he has no longer to hitch up old Dobbin once a week and drive several miles to town for his mail and get the news a week or more after its occurrence. There is no question in the farmer's mind as to the blessings of rural delivery, and any proposition for its abolition would meet with strong opposfrom those who are so largely benefitted by it. A new movement to make it still more effective has been inaugurated by a bill, which was introduced in the last session of Congress, but which failed to become a law owing to its carrying an appropriation of $25,000. This measure was a rural telephone free delivery. The bill was introduced by Senator Fairbanks, and, as he pointed out, in many parts of the country almost every farmer has a telephone, and the system is steadily increasing. The new scheme is to have a special stamp which will denote to the postmaster at the receiving office that the envelope is to be opened and the message forwarded to its destination by telephone. It often happens that mail is received at the postoffice after the carrier has started on his daily rounds, and possibly important messages would have to remain over for the next days' delivery. By this method the message would be forwarded to its destination immediately upon its arrival and a day's time saved in its delivery. The measure is a good one, and while turned down by the last congress, will undoubtedly come up again and pass in the next.

Every farmer, yes, every city or suburban resident, with half an acre or more for a garden, should have a few rows of dewberries and blackberries. Two rows of each one hundred feet long, will amply supply a family of six or seven persons during the berry season and leave enough over to make a few jars of jam for the childoen between meals, and would fill in the gap there would otherwise be between the strawberries and the early plums and peaches. Of course, we are assuming that the half acre or more shall contain an ample strawberry bed, say 26 feet by 100, and at least one dozen choice fruit trees, chiefly peaches and plums, with figs in South Texas and a pear tree or two. All this fruit would occupy less than one-fifth half acre, leaving more than four-fifths for vegetables. About our cities how often do we see residences with enough ground devoid of any of these luxuries so cheaply secured, and the care and cultivation of which is so great a pleasure to every normal person. But what is much worse is the fact that hundreds of farms are as bare of fruit as the city residence. If a man owns a home he should literally dwell under his own vines and fruit trees.

How Would You Like To Sell The Farm

and come to a fine, new, modern University town, to live in comfort and to educate the children? There are some good business openings in Palo Alto, and it is a profitable place in which to own houses to rent. We are also seeing great numbers of Eastern tourists, and many of them want farms; perhaps we could sell yours. If you can't come write to us.

B. F. HALL

Dealer in Town and County Property

PALO ALTO, CAL. Santa Clara Co.

Woman's Realm

A very pretty and simple design for a summer wash dress is here suggested: Make the skirt in round length with a full, straight flounce about twelve inches deep. Head the flounce with a narrow band of embroidery.

The waist is made with a square yoke of all-over embroidery from eight to ten inches deep. A ruffle of embroidery outlines the yoke. The lower part of the waist is full and pouched in front, while the back has a few gathers drawn down straight. The closing is at the back.

The sleeves are elbow length with little fullness. At the elbow, however, is a deep, full ruffle of the embroidery, which is cut narrower at the inside of the sleeve than at the outside. The collar and sash may be of soft ribbons of the same color as the dress, or white.

Belts made of shoe strings woven together are very fashionable just now. The ends of the strings are fringed to give the belt a finish. It is fastened with a fancy pin.

Something quite new this season are the flowers made of ribbon, silk and chiffon to be ushed as dress ornaments.

Sweet pea blossoms made of chiffon are fastened in bunches on the shoulder or attached to a silk cord which is used as trimming in any way desired.

The following articles of dress are very much in vogue this season, although not decidedly new:

Sashes with short bows and very long ends made of soft ribbon or silk.

Beaded purses with figures of all kinds woven in them.

The bolera jacket, especially those made of lace and lined with soft silk or chiffon. The color of the lining should match the prevailing color in the dress.

The feast of resurrection which we now celebrate as Easter took its name from the old Saxon word "eastre." To the Saxons "eastre" was the name of a heathen goddess, whose festival they celebrated in the spring. They fasted for many weeks before this festival, but on that great day their feast began. Even among the poorest that day was considered the greatest of all days. In the small villages the peasants bring their food in baskets to the priest to have them consecrated. The wealthier people have the priest come to their homes and consecrate the entire table after is is fully set. This feast begun lasts for many days, the table always standing loaded with food. New dishes are brought on as soon as the first ones are finished.

The children have a table by themselves, where dainties of all descriptions are placed. The only custom we have borrowed is that of using colored eggs.

THE HALO.

"One London dealer in birds received, when the fashion was at its height, a single consignment of thirty-two thousand dead humming birds; and another received at one time thirty thousand aquatic birds, and three hundred thousand pairs of wings."

Think what a price to pay,
Faces so bright and gay,
Just for a hat!
Flowers unvisited, mornings unsung,
Sea-ranges bare of the wings that o'erswung,—
Bared just for that!

Think of the others, too,
Others and mothers, too,
Bright-Eyes in hat!
Hear you no mother-groan floating in air,
Hear you no little moan,—birdlings' despair,—
Somewhere, for that?

Caught 'mid some mother-work,
Torn by a hunter Turk,
Just for your hat!
Plenty of mother-heart yet in the world,
All the more wings to tear, carefully twirled!
Women want that?

Oh, but the shame of it,
Oh, but the blame of it,
Price of a hat!
Just for a jauntiness brightening the street!
This is your halo, O faces so sweet,—
Death: and for that!

—W. C. GANNETT.

AT SET OF SUN.

If we sit down at set of sun,
And count the things that we have done,
And counting find
One self-denying act, one word,
That eased the heart of him who heard,
One glance most kind
That fell like sunshine where it went,
Then he may count the day well spent.

—New York Magazine of Mysteries.

"They are slaves who fear to speak
For the helpless and the weak!
They are slaves who will not choose
Hatred, scoffing and abuse
Rather than in silence shrink
From the truth they needs but think!
They are slaves who dare not be
In the right with two or three."

M. H. HIBBARD
Carriage Painter

All work guaranteed first class. Dealer in second-hand CARRIAGES of all kinds

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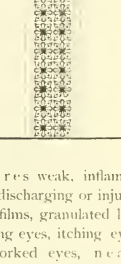
YOUR EYES NEED

Ca-tho-la

The Great EYE Remedy



It cures weak, inflamed, sore, discharging or injured eyes; films, granulated lids, blurring eyes, itching eyes, overworked eyes, near-sightedness. Brightens dull eyes, and relieves eye pain. All druggists. Price 50 cts. If your druggist can not supply you it will be mailed to your address on receipt of price . . . . . .

50 CENTS

The Cathola Eye Remedy Co.
San Francisco, California

The Garden

Why people go on year after year growing fine crops of inferior garden vegetables, when the very best require no more land and no more labor. It is often the case that the coarser and less highly flavored varieties are more prolific than the finer sorts. This is especially true of sweet potatoes, beets, squash and many others. Some of the round, smooth garden peas are more prolific than some of the finer flavored wrinkled peas. There is a very wide difference in varieties

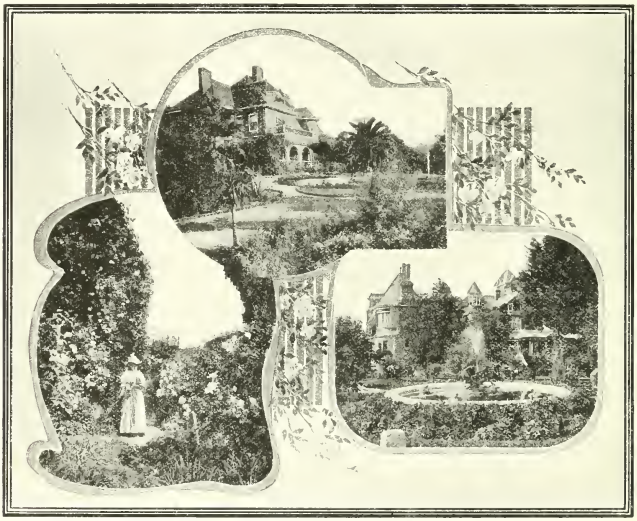
super-hardy weeds should insist in growing, the rhubarb will grow as well with as without them.

Floral Notes.

Chrysanthemums may be grown successfully from cuttings. Choose the most thrifty shoots with a piece of root attached; the shoots that come up at base of the old plants. Start them to growing when the warm days come, in boxes of sand or sandy soil. Give them plenty of moisture.

Give flower seeds planted indoors charcoal around the roots is good for any pot plant. Some of them will need fertilizer or fresh soil. This is the best time to start cuttings from begonias, abutilons, geraniums, helioropes, double petunias, and fuchsias. Root them in coarse, clean sand in a rather shallow box. And be sure the sand is moist all the way through, all the time.

Wild flowers may be successfully transplanted, if one is careful to dig well around and under the roots to be sure of getting enough earth with the plant. Then be careful to keep the soil from falling from around the plant until you get it planted in a shady place. They will not thrive without shade and plenty of moisture. The graceful ferns and fair forest flowers



Scenes In Santa Clara County

Those who think more of beauty than eating quality, of course, will continue to plant narrow fat peas, wax beans and long blood beets. But those who prefer quality to looks, will plant good wrinkled peas, green podded beans and early turnip rooted beets, of each of which there are numerous excellent varieties, and those who do not know may very safely depend upon what the catalogues say as to varieties and qualities.

Luther Burbank says the easiest of all perennials to grow is rhubarb. Once started it will continue to produce for fifteen years, will take possession of the ground and kill out weeds, or if any

several inches of soil for root growth. Weed out the plants that do not have a healthy appearance. The young plants require a warm temperature and plenty of moisture. Holes in the bottom of the box containing plants, with a little charcoal, will insure good drainage.

This is the time when house plants make a vigorous growth. The geraniums enjoy the spring sunlight, and need plenty of moisture to sustain the new shoots that are being put forth. The primrose does not require sunshine, and will not thank you for water on its leaves. And water should not be allowed to reach the crown of the plant Give the palm water enough to keep the earth moist, not wet. If the leaves turn brown, the drainage is defective.

Weak lime water will banish worms from the soil of pot plants. And fine

are fast disappearing with our forests. We may preserve a few of the delicate plants if we have a suitable location.

Give roses rich soil and the blooms will be fine and numerous. The vitality is injured by setting the young plants too near large trees. To do well they also need good drainage and a southern or eastern exposure. When setting plants press soil firmly around the stem, to prevent the roots drying out and the top being jarred by the winds. Until new growth starts, they will need moisture in plenty and protection from the sun.

An old legend tells us an angel breathed upon an ordinary rose bush, because she was grateful for its protection while sleeping beneath it, and it was covered with moss. This originated the moss rose.—Rush Co. F. M. W.

Household Expenses at the White House.

When Colonel Bingham told congress that there was more entertaining than usual in the White House, he spoke what was true, though it did not explain the increase of $35,000 in the appropriation asked for. That increase, for maintenance of the White House, seems to have been chiefly a consequence of alterations and refurnishing. Presidents from New York have usually het a pace, in hospitality. Mr. Van Buren entertained generously and handsomely; so did Mr. Arthur; and President Roosevelt has lived up to, and somewhat beyond, their traditions. There is every reason why a president should keep a hospitable house if it accords with his taste. More people that are worth seeing come to the White House in a given season than come to any other house in the country. They make a society that is varied, distinguished, and prodigiously itneresting. The temptation to seet a constant of guests at the White House table is quite comprehensible, and Mr. Roosevelt, having a liking for company, has yielded to it. Gut it is an expensixe pleasure. Taken by itself the president's salary looks large; taken in connection with such hospitalities as the White House has seen this winter and last winter, it looks small. The government by no means pays for the president's hospitalities. It defrays some expenses of maintenance and service, but the wages of nearly all of his household servants, and the checks for the butcher, the baker, the grocer (wet and dry), the caterer, the confectioner, and the other purveyors of entertainment, come out of the president's own bank account. If a president is going to save money he must restrict his houserold expenses. That should not be so. The way Mr. Roosevelt lives in the White House is a very good way for a president to live if he likes it. The president of the United States should not have to economize. He should be able to live generously and without undue thought about the cost of it, and at the same time to lay aside a good part of his income. When the present salary of the president has been dooded, it will not be a bit too large. Even then no president will be able to save much out of it, even in eight years.—Harper's Weekly.

American Wives for English Lords.

Mrs. George Cornwallis-West, who was Miss Jennie Jeroms, and who first married Lord Randolph Churchill, directs attention to the number of American women who have married in England during the last thirty years. For more than half of the nineteenth century the record of the three Caton girls, granddaugters of Charles Carroll of Carrollton, remained unapproached. It will be remembered that those young ladies married, respectively, the Duke of Leeds, the Marquis Wellesley, and Lord Stafford. Since then two Dukes of Marlborough, two Dukes of Manchester, and the present Marquis of Dufferin and Ava have married American women, to say nothing of earls, viscounts, and barons. Nor it lt by riches alone that coronets have been acquired. The present Duchess of Manchester had by no means a great fortune. Lady Dufferin's dowry was not large, and Lady Essex had scarcely any money. It is largely, though, of course, not wholly, by wit, attractiveness, and charm, that American women have challenged and acquired the influence which they now undoubtedly possess in English smart society. At least two American girls have married French dukes, namely, the Duc de la Rochefoucauld and the Duc Decazes. From the view-point of the Almanach de Gotha, however, none has made quite so brilliant a match as Miss Lee, the daughter of a New York grocer, who married, first the Duke of Augustenburg, and secondly, the Geenral Count von Waldersee, who was the Geenralissimo of the allied forces in China during the Boxer rebellion. We may mention, also, that a high place in the Golden Book of the Roman and Neapolitan aristocracies belongs to the Prince Colonna, who married an adopted daughter of Mr. John W. Mackay. Whether, as Mrs. Cornwallis-West opines, such marriages have a tendency to promote international friendship may be doubted, for American women married to foreign nobles are apt to acopt in manners, sentiment, and sympathy the country of their husbands.—Harper's Weekly.

On account of the prolonged drouth in New South Wales, statistics for 1902 show a shrinkage of sheep to have been 16,000,000 head, with such tremendous loss in a single year it can readily be seen how the prices of wool will be affected.

A moderate but nearly uniform milk flow for ten months will aggregate more than heavier milking for a shorter period.

The Cincinati Price Current has reports from all packing concerns showing that over 1,000,000 less hoggs have been packed this year than last from November to February.

A tract of 20,000 acres in western Kansas has been bought by Indiana and Ohio capitalists for raising Polled Angus cattle.

Do You Need a Spring Blood Purifier?

RED CROSS SARSAPARILLA

is warranted to be the Best in the world, at the

Red Cross Drug Store 187 West Santa Clara St., SAN JOSE, Cal.

TREES

Soft Shell Walnut
Olive, Almond and Fig

APPLE
CHERRY
PEACH
PLUM
PRUNE
APRICOT

GRAPE VINES
LOGAN BERRY
MAMMOTH BLACKBERRY
STRAWBERRIES, RASPBERRIES
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Seeding Peach Pits, Hard Shell Almonds

Myrobolan Plum Pits — Mazzard Cherry Pits — Pear Seeds, Etc.

Correspondence Invited. 1903 Catalogue Free on Application.

TRUMBULL & BEEBE, Seedmen and Nurserymen

419-421 Sansome St. San Francisco

Mushroom Spawn

A small quantity of Imported English Mushroom Spawn for sale, with instructions how to form beds and generate the spawn. A simple process that a child can follow.

PARCELS, 25 CENTS AND UP.

Apply at "Tree and Vine" Office

18 SOUTH MARKET ST., SAN JOSE.

RIPE PICKLED OLIVES IN DEMAND IN NEW YORK

The following from the New York Commercial indicates that there should be a good market in that city for California olives, properly pickled when ripe:

"In speaking of ripe olives imported from Greece the trade uses the word 'black.' The black olive is the rich, ripe olive ready for the table. Black olives are grown very little among Americans. Their consumption is entirely among foreigners. Over on the East Side of New York City they are in great demand. Jews from the south of Europe, Italians, Greeks, Spaniards and others are customers for them. Their importation began about eight years ago as a recognized and separate business and it is constantly on the increase. This business was in the hands of Italians for a time, but now they constitute the jobbers principally. The business is going into the hands of the Greeks, who have learned American methods and are making a great success of it. One Greek firm in lower Wall Street, which does the largest business in black olives, is making an effort to introduce them among the native American population and no doubt their intelligent methods and conception of the business will prove successful.

"The ripe olive is really very appetizing. It is packed in barrels and is served from the brine just as the green one is served. The black olive is small and round with smooth, thin skin. It is very meaty and has a good flavor. The taste for it is not hard to acquire. When it is out of the brine long enough to become dried it looks very much like a prune.

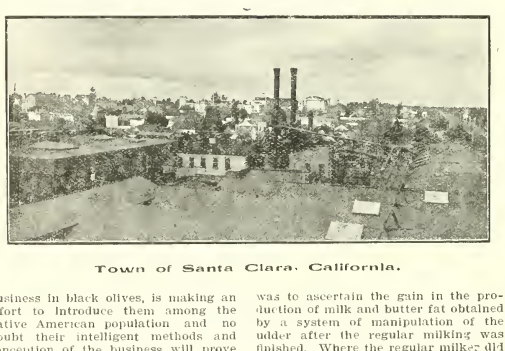
"Ollves grow throughout all the Isles of Greece—everywhere except on the mountains. The new crop begins in October and ends in January. Men, women and children pick them. They shake the trees and knock them off with sticks. They are gathered in baskets and carried to the market borne on donkeys. The olives are packed in brine in barrels holding an average of 190 pounds. The imports direct from Greece last year amounted to about 10,000 barrels.

"The wholesale price of the black olive is six to eight cents a pound. Retailers get ten to twelve cents. The Salona is the best black olive. The skin is thinner, it is meatier and the seed is smaller. Salona is the capital of the province of Parnasses. Etea is its principal seaport, whence the olives are shipped. Aside from their other advantages the Salona olives keep the longest. Next come the black olives of Volo. These are blackest of all and the largest. The skin is thicker, the stone larger, the flavor less sweet. Black olives of Calamata differ from the others by being oblong instead of round. They are best packed in olive oil with a little vinegar added. When picked from the trees they are packed in large barrels with vinegar instead of in salt and water as the others. Quantities of black olives of Greece are shipped from New York for consumption by foreigners in other cities of the United States.

Prof. Wall, of the University of Wisconsin, has been making some extended experiments in what is known as the Hegeland method of manipulating the udder after milking and then stripping the udder. The aim in all cases was to ascertain the gain in the production of milk and butter fat obtained by a system of manipulation of the udder after the regular milking was finished. Where the regular milker did not milk clean the gain obtained by clean milking, together with the manipulation of the udder was ascertained. In the University the average daily production of milk from 24 cows was increased by 4.5 per cent, by means of the manipulation method, and the production of fat was increased by 9.2 per cent, as the result of a milking experiment continued for four weeks.

A similar average increase in production was obtained for the twelve dairy herds tested by a gain of 1.08 pounds in the daily production of milk per cow and one pound of fat. The results found in this experiment extended over four months with cows in all stages of lactation. The largest amount of milk obtained from one cow by this manipulation was 5.5, that is five and a half pounds, and the lowest one-fifth of a pound.

All of this goes to show what a serious loss the dairy makes through careless milking, though the main idea that this manipulating means is that as the last milk is many times richer than the first in butter fat, with most cows the stripping can be doubled in amount if the cow is coaxed to give it down after she has apparently given all she has.—L. S. Hardin in Home and Farm.



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Castings and Machinery of Every Description Made and Repaired.

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We have just received an enormous line of STUDEBAKER vehicles and are selling them away down.

Road Wagons for $45.00. Top Buggies for $57.50; Surries for $90.00; 2-seaters $55.00; Farm Wagons from $55.00 up.

The Very Best In the Market

STUDEBAKER

GRADE CONSIDERED THE CHEAPEST ON EARTH.

SEE US FOR HARNESS, MOWERS, RAKES, PLOWS, HARROWS, Etc.

We Can SAVE You Money.

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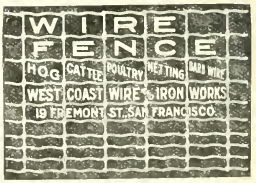

CATALOGUE ON APPLICATION.

The New California Fruit Agency.

The new fruit marketing organization, felicitously named the California Fruit Agency, which was happily coming the past week in the city of Los Angeles, with its beneficeit work auspiciously inaugurated, will undoubtedly have a far-reaching influence not alone in the state of California, but over the whole country, since its system of united operation, popularly designated co-operation, is certainly applicable to other agricultural operations, including cereal, deciduous fruit, raisin, prune, live-stock and other industries, as well as to the citrus fruit industry, and it is in this large sense of general usefulness that its full significance lies, assuming, as we surely may, that its gigantic business will be ably and honestly managed, and therefore prove to be splendidly successful, thus demonstrating the wisdom and practicability of the system.

The immediate benefit to Southern California which will come from the successful operation of the California Fruit Agency will be much greater than the general reader can understand, and it will increase to vast proportions in the near future, the whole of the benefit practically going to the rightful people, the actual growers of the oranges and lemons, a measure of justice almost never before realized by the producers.

The control of the new fruit agency is placed in the hands of a board of thirty-two directors, one-half to be members of the fruit exchange, the other half of independent shippers and growers outside the exchange. In pursuance of this plan of consolidation the California Citrus Union has been formed, chiefly composed of the well known firm of the Fay Fruit company, Ruddock-Trench company, A. Gregory, West-American Fruit company, Moulton & Green and A. G. Stearns. The directors of this new organization are E. P. Fay, A. G. Stearns, E. S. Moulton, A. Gregory, G. J. Curtis, L. J. C. Spruance, Thomas O'Neill and F. C. Wintrode.

The members of the board of control of the Consolidated California Fruit Agency, so far as chosen, are: A. H. Naftzger, G. W. Garcelon, W. H. Young, A. H. Stutsman, Frank Scoville, W. R. Powell, N. W. Blanchard, W. G. Fraser, F. Q. Story, E. F. Van Leuven, P. J. Dreher, F. B. Meriam, B. A. Woodford, H. E. Cheesebro, I. R. Baxley and J. J. Cairns, representing the Southern California Fruit exchange, the full number of sixteen, and Thomas O'Neill, F. C. Wintrode, F. T. Fay, L. J. Spruance, A. Gregory, G. J. Curtis, E. S. Moulton, A. G. Stearns and G. W. Felts, nine of the sixteen directors representing the Citrus Union and outside growers.

The officers of the California Fruit Agency are as follows: A. H. Naftzger, president and general manager; Thomas O'Neill and F. Q. Story, vice-presidents; G. W. Felts, secretary J. L. Merrill, cashier, and W. T. L. Hammond, treasurer.

In explanation of the basis of operation in which the public is interested as well as fruit growers, a few words from the address "to all exchange members," signed by the full board of sixteen directors of the exchange may appropriately be given: "The California Fruit Agency . . . for the exchange, shippers and growers alike," is organized, on a co-operative basis . . . . with similar aims and policies to the Southern California Fruit Exchange." "Under the arrangement which we have made all the principal shippers, who for years have been engaged in the marketing business, join the agency . . . continuing in the business practically as packers," and will "put their numerous packing houses and extensive facilities at the service of the growers and at less cost than heretofore."

They also announce that they expect to "greatly increase the number of selling agencies and promote the use of California oranges and lemons at a still further reduction in operating expenses"; that they will "avoid the disasters of too much fruit in a single market and too little in others," also "protect the trade against losses by sudden fluctuations," and can make "better average returns to all growers without increasing the price to consumers." Los Angeles Herald.

A FIELD OF SWEET PEAS.

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Merits of the Newtown Pippin

The apple-growers of the Pajaro Valley have under discussion the comparative merits of a green Newtown and a yellow Newtown, there being difference of opinion as to classification.

Going back to 1876, says Leonard Coates in the Fruit World, I remember that in the orchards planted by the late W. H. Nash in the Napa Valley the two varieties were planted separately and were considered distinct. The growth of the "green" variety was slightly more upright than that of the yellow, and in the fruit there was a marked difference. There is no doubt that many of the Pajaro Valley orchards were grown in Napa nurseries and propagated from these trees, hence these remarks will be of interest. Mr. Nash was one of California's pioneer orchardists, and nurserymen, and after he retired from farm labors he was long known amongst the commission men of San Francisco in the well known firm, Evetech-Nash Company.

"Yellow" Newton pippin should always have been known only as Albemarle pippin, and the "Green" simply as Newtown pippin. According to the rules of the American Pomological Society, both "Pippin" and "Green" or "Yellow" should be eliminated, Albemarle, (synonym of the yellow variety) and Newtown being their correct appellations.

Downing gives the history and description as follows:

Green Newtown Pippin.

"The Newtown pippin stands at the head of all apples and is, when in perfection, acknowledged to be unrivaled in all the qualities which constitute a high flavored dessert apple, to which it combines the quality of long keeping without the least shrivelling, retaining its high flavor to the last. It commands the highest price in Covent Garden Market, London. This variety is a native of Newtown, Long Island, and it requires a pretty strong, deep, warm soil to attain its full perfection, and in the orchard it should be well matured every two or three years. The tree is of rather slender and slow growth, and even while young is always remarkable for its rough bark. Fruit of medium size, roundish, a little irregular in its outline, caused by two or three obscure ribs in the sides—and broadest at the base, next to the stalk; about three inches in diameter, and two and a half deep. Color deep green, becoming olive when ripe, with a faint, dull, brownish blush on one side, dotted with small gray specks, and with delicate russet rags around the stalk. Calyx quite small and closed, set in a narrow and shallow basin. Stalk half an inch long ,rather slender, deeply sunk in a wide, funnel shaped cavity. Flesh greenish-white, very juicy, crisp, with a fine aroma, and an exceedingly high and delicious flavor. Best. When the fruit is not grown on healthy trees, it is liable to be spotted with black spots. This is one of the finest keeping apples, and is in eating from December to May, but is in the finest perfection in March.

This is entirely distinct from "Yellow Newtown pippin."

Yellow Newtown Pippin or Aibemarle.

"The Yellow Newtown Pippin is handsomer in appearance, and has a higher perfume than the Green or Newtown pippin, and its flesh is rather firmer, and equally high-flavored, while the Green is more juicy, crisp and tender. The Yellow Newtown Pippin is rather flatter, measuring only about two inches deep, and it is always quite oblique—projecting more on one side of the stalk than the other. When fully ripe it is yellow, sometimes with a rather lively red cheek, and a smooth skin, few or none of the spots as on the Green variety, but with the same russet marks at the stalk. It is also more highly-fragrant before and after it is cut than the Green. The flesh is firm, crisp, juicy, and with a very rich and high flavor. Both the Newtown Pippins grow alike, and they are both excellent bearers. This variety is rather hardier and succeeds best. February to May."

The Best General Purpose Apple.

With the desire to produce a good shipping red apple, the Rhode Island Greening that standard variety of most high excellence in every point, is being largely neglected. As a cooking apple it has a few superiors. As a desert fruit it is highly prized. As a free grower in the orchard and as a regular and abundant bearer it ranks among the best. As a fruit universally in demand in our home and foreign markets is attested by the excellent prices it steadily commands. This grand old standard variety, carrying perhaps more good general qualities than any other, should be more extensively planted to the exclusion of other and lower grade varieties.—American Agriculturist.

The Management of Raspberries and Blackberries.

A correspondent asks the Maine Experiment Station for information as to the time for pruning and transplanting raspberries and blackberries. In reply the following suggestions were made:

"The ideal treatment for raspberries and blackberries is to pinch them back at intervals during the summer and thus secure strong, sturdy bushes three and one-half to four feet high, with laterals one to one and one-half feet long, rather than to practice severe heading back after the plants have become long and 'leggy.' If, however, as is frequently the case even in the best managed gardens, the plants are at this season making vigorous growth which may not mature, they should at once be cut back to the desired height and the canes will harden before cold weather. Many prefer to cut back the bushes in the spring. Thinning the canes, which should always be practiced, may be done at any time during the season. In general one-half, or more, of the young canes which appear should be cut out.

"Blackberry and raspberry bushes may be transplanted in the fall but better results are usually obtained from spring planting. Currants, on the other hand, have given rather better results from fall setting.

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SEND FOR FOLDER "A"

Growing Popularity of Rhubarb

The pie plant of our grandmother's garden is doubtless well remembered by the majority of our readers. The delicious pies, with green apple acid and strawberry flavor, were brought to the table before any other pie-making fruits or berries were ready for use. Then the rhubarb sauces were piquant and appetizing, served with spring lamb and chicken. It may not have occurred to us then that the healthful properties of the plant made its products so gratifying to the appetite. The relish with which rhubarb pies and sauces are eaten is proof that the acid is just what the system requires.

Rhubarb is growing in popular demand. It is extensively grown for the spring market and is also forced in dark pits or cellars, much after the manner of growing mushrooms. In this wise it is in market the year round. Amateur gardeners will find rhubarb easy of culture. It comes from seed, but the quickest and surest way to start a little plantation is from rooted plants, bought from the dealers. Once established the plants are perennial. The yield is heavy if the soil is rich, well drained and in a sunny locality. The stalks are cut, or drawn, from the crown early in spring before other garden products have fairly begun growth.

In the culinary arts rhubarb is a prime factor. It takes all flavors, but, like the Irish potato, imparts none. Its acid taste harmonizes well with all fruits and berries in making cordials, pies, jellies and even wines. Sparkling catawba and champagne may both be made in imitation to suit the most fastidious taste, from rhubarb. Cherry, almond, strawberry or ginger cordial may be made from rhubarb. Raspberry tarts, strawberry and cherry pies may be made of just enough berries or cherries to impart flavor, the basis being of rhubarb. The acid juice congeals readily in making jelly, and peach, orange, quince, strawberry or currant jelly may be made of rhubarb with just enough juice of either of the other fruits to give the flavor. If rhubarb is to be made into filling for pastry, with any other ingredient as flavoring, or to be used itself alone, it must be cut into bits, washed and put into a granite-lined or earthenware baker and seasoned with sufficient sugar to make it sweet, set inside the oven to bake or cook. Baking in its own juice is much better than stewing in a little water, as is often done. When it has baked tender and done, with a silver spoon beat it to an even thickness and spread it on the pastry. Or if intended for sauce, when beaten smooth, fill the sauce-bowl with it and serve cold. The amount of sugar should be a pound for a pound, as rhubarb is quite acid. When sweetened liberally with sugar the sub-acid taste is delicious. If strawberries or cherries are made into tarts with rhubarb, one-third or less of either will give the flavor, so no one would know but that the tarts were all of strawberries or cherries. Rhubarb is cheaper early in the spring than berries of cherries. Preserved, imported ginger is easily duplicated by cutting rhubarb stalks into pieces of any desired size or shape. Boil them until the juice is extracted, and make a syrup as for other preserves. While it is hot to boiling point, drop the pieces of rhubarb in and boil rapidly for half an hour. Then lay the preserved pieces on flat dishes and expose them to the sun for half an hour. Return them to the syrup and boil twenty minutes. They are then ready for the jar, but in the meantime pieces of Jamaica ginger must be split in halves, boiled in syrup and mixed in layers of one to three, when putting the rhubarb into jars. Fill the jars full of hot syrup and screw the top on securely. All fruit jars should have another turn given the top after getting cold admitting the air. Extract of ginger and a few blades of mace also improve the flavor of this imitation of preserved ginger. It will be as well flavored and decidedly more tender than the real ginger preserves.

The juice of rhubarb half and half, with pure honey, is used by the Germans as a hygienic cordial.

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Creamery Report.

Joseph Saner, proprietor of the Galt Creamery, supplies to the Galt "Gazette" a report of the results of his establishment. He says:

"Following are amounts patrons of the Galt Creamery are receiving, representing monthly cash payments. These figures, however, do not show all the farmer makes, as they do not represent the resulting benefits of skimmed milk that he takes home for his calves and hogs. The present figures are arrived at by adding the cash received to the market value of the butter which each customer takes home.

"Charles Williams' account—July, $15.12; August, $25.05; September, $18. Average number of cows milked per monts, 3½; total amount received for three months, $56.17; average amount received for one month, $18.72; amount received per cow per month, $5.35.

"H. Thayer's account—May, $16.52; June, $11.88; July, $20.66; August, $17.87; September, $14.60. Average number of cows milked per month, 4; total amount received for five months, $81.53; average amount received for one month, $16.30; average amount received per cow per month, $4.07.

"Al Adams' account—June, $16.94; July, $16.98; August, $18.79; September, $16.50. Average number of cows milked per month, 4; total amount received for four months, $69.20; average amount received for one month, $17.30; amount received per cow per month, $4.32.

"George Orr's account—May, $18.55; June, $15.26; July, $12.06; August, $7.06. Average number of cows milked per month, 3; total amount received for four months, $59.93; average amount received for one month, $13.28; amount received per cow per month, $4.30.

"Harry Ferguson's account—May, $53.50; June, $71.14; July $66.51; August, $74.20; September, $57.31. Average number of cows milked per month 15, total amount received for five months, $322.66; average amount received for one month, $64.53; amount received per cow per month, $4.30.

"S. C. Bill's account—May, $23; June, $13.90; July, $18.06; August, $27.48; September, $22.47. Average number of cows milked per month, 6; total amount received for five months, $104.91; average amount received for one month, $20.98; amount received per cow per month, $3.50.

"J. McKinley's account — July, $143.30; August, $201.48; September, $182.76. Average number of cows milked per month, 33; total amount received for three months, $527.54; average amount received for one month, $175.84; amount received per cow per month, $5.33.

"For the month of May one cow paid its owner, J. W. Brewster, $7.39."

A CALIFORNIA BEAR--ER!

THE SAN JOSE SCALE IN NEW YORK.

Satisfactory Use of the Lime, Salt and Sulphur Wash.

In the West ,especially in California, where San Jose scale and similar insects have been a great menace to fruit growing, the Lime-Sulphur-Salt wash has become the dependable means of repression. Tested in the Feast, some years ago, it received an unfavorable report, as it seemed to wash off the trees by rains before exerting much destructive effect on the insects. But tests made by the Station at Geneva, during the past season, show that, properly made, it adheres to the twigs and limbs remarkably well, even during such exceptionally wet weather as we had last Spring.

In the tests more than seven hundred trees, in five orchards scattered well over the State, were treated with this wash. Only in one instance, when the foliage was too far advanced, was there any injury to fruit, leaf or twig, and this damage was slight. When applied before the buds began to swell, their opening was retarded a few days, but within two weeks or so all difference between treated and untreated trees, in this respect, had disappeared, but later the untreated trees continued to lose vigor and healthfulness through the work of the scale, while the treated trees were practically cleared of the pests.

The mixture is made by boiling together forty pounds of lime, twenty pounds of sulphur and fifteen pounds of salt, in about thirty gallons of water. Boil for two hours; then add more water to make sixty gallons, and apply while hot, using a powerful pump and good nozzle.—Geneva Experiment Station.

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EQUITY AND THE FOOL.

By Henry Burns Geer.

The general impression is that it takes a smart fellow to be a rascal, fairly, is at heart a fool as well as rascal.

Some three thousand years ago, the prophet wrote:

"As the partridge sitteth on eggs, and hatcheth them not: so he that getteth riches, and not by right; shall leave them in the midst of his days, and at his end shall be a fool."

There are some homely truths in the old book from which this is quoted. Truths that are germs of wisdom and gems so firm and brilliant, that time has not effaced their lustre.

And yet, so many shady transactions have resulted disastrously to the inaugurator, that one is apt to conclude, that, after all, the man who deals un-

The wrongs of mankind are the result of inequality, of unfair dealing and inequity. These things are the basis of indignation, or righteous

wrath, and revolutions by the people. Patience is a virtue that the majority practice to the uttermost limit before demanding justice. But, there is a limit, and when that limit is reached, the people reassert their rights and the dignity of the populace.

The methods of the French revolution belong to the period in which they served their purpose. The call to arms that aroused the Patriots of '76, was a call justified by the conditions of the times. It was a call to overthrow the despotism of an egotist—a fool misnamed King.

cut the domain of the tillers of the soil.

Some one has said: "The fool is wise in his own conceit." Likewise is the fool daring and unscrupulous, when entrenched behind a cordon of ill-gotten gain,—riches he has gotten, "and not by right." In this role he is the gambler,—the partridge that sitteth, but hatcheth not. Bye-and-bye, when the purpose of the American Society of Equity is unfolded, and the farmers break down the mountain of profit between him and the consumers, the barrenness of this vulture of commerce will be made plain to all the people; and he, "at the end shall be a fool."

That the Society of Equity can oust the gambler and reveal the fool, goes without saying, when its plans are fully inaugurated That the conflict will be a sharp one,—for there are more fools than one,—is equally certain. The march of equity, however, like the forward movement of any great cause arising from the people, and espoused by them—is necessarily slow, but eventually resistless.

It may be said that this is the strongest fort the society will have to charge—its most vital purpose. The manipulation of the grain, produce and live-stock markets by the cliques who are entrenched in every exchange of any consequence in the country, is working more injury to the producers than all other causes combined. Nor is that all. The consumers also suffer from the same source of iniquity, and all the people are forced to pay tribute to the bird that sits on infertile eggs.

Boards of trade are legitimate and honorable, and so are exchanges, where the exchange is fair and above board; but the manipulation of the market by unscrupulous stock gamblers, and the buying and selling of options, so called,

The new despotism which the American society of equity confronts, is the despotism of the dollar. Back of the dollar, manipulating it to his own selfish advantage, there is a modern fool, known to the world as a stock gambler. Out in the field is the farmer—and abroad in the land is the organizer of equity—and the day is approaching when the gambler shall depart from his stand and then before all the world he will, in the end, be a fool. For equity is mighty and shall prevail. It does not require the raising of the red flag; nor is a call to arms necessitated, other than the producer arming himself with the banner of co-operation. It is a noiseless current, that is ramifying in and out through-

trades without any substance in fact, should be prohibited by law, but law availeth not and the farmers will arise and wreak vengeance. Such transactions make fictitious prices; and, coming as they generally do, after the farmer has sold his year's output, he reaps no benefit, while the consumer has to pay tribute to the stock gambler.

Conditions change with the centuries, but the principles of which the prophet wrote three thousand years ago are just as much alive today as they were at that time. This is why the unjust man is being pointed out now, as then, and the cry for equity is heard from the people. They recognize the stock gambler now. Eventually they will reveal the fool.

Why Farmers Should be Educated.

The question is not whether the farmer should be an educated person, but whether he should have an education especially adapted to his calling. It should be conceded by all that every citizen should have a good general education. Everyone should know that North and South America are connected by a narrow isthmus; everyone should know that the Americans were assisted in their struggle for liberty by a brave young Frenchman named La Fayette. These and various like items go to make up an elementary education which every person needs. But our question goes beyond that and wants to know whether the farmer should have besides that, such special knowledge and training as belong to his occupation? No one questions but that the physician should have a special education. Indeed, the law requires that he be put through a certain course of instruction before it will allow him to compound medicines Neither do you allow a man to practice law until he is familiar with Blackstone, Kent, Parsons and Bourier. Even with mechanics, only a suitable apprenticeship will admit me to membership in the trades union. But a man may be a voter, juror or farmer with no qualifications whatever.

Adam was a farmer, and the earth gave him plenty, with but little exertion of his mental powers. What is true of him is still true if one's wants are no more numerous than his. One can have an existence in a dug-out, grow a few potatoes, raise a pig or two, and be called a farmer. But the time is here when, whatever occupation you enter into you must be educated. One of the most important occupations is farming. Without the farm, or ather what is raised on the farm, man and beast could not live.

Now, since farming is of so much importance, certainly the farmer should have an education, because, without an education the farmer would be continually cheated and would not know how to manage affairs. Without education men would not know how to use the new machinery that is coming in general use, and when anything goes wrong they would not know how to fix it themselves. Without an education the farmers could not raise crops to best advantage. With education farmers could sell their crops to the best advantage. They could read newspapers and see what other people get for their crops. But there are yet some who sneer at the suggestion that a college education helps a farmer. How do they account for the fact that agriculture has kept step with educational advancement, not only in this country but throughout the civilized world?

By college education for farmers, we mean more particularly agriculture college education, though any kind of college helps one to farm just as it helps in any other business. Why should not an education, especially in the sciences, help the farmer? He has to deal with scientific questions daily, whether he has any knowledge of such laws.

But a special agriculture education is what every farmer needs, and if an addition to his classical and scientific education so much the better.—Farmers Call.

The Bee and the Hen.

"A queen bee," said Deacon Bimber, "lays from two thousand to three thousand eggs in less than a week, and don't say a word about it, but when that old speckled hen o' mine drops her one little stub-ended valler egg in the mornin', she struts around and hollers like a house afire, and snubs the whole face of all creation, as if she owned the earth—and that bee and that old hen is a good deal like some human folks."

Hired Help on the Farm.

When a farm lad's school days are over he settles down to the real business of life, and providing he is not led astray down any by-paths, he takes to farming, the high road, which, though hot and dusty in spots, leads to the goal of genuine success—a useful career of planning and working.

The boy may hustle for his father on the home place or he may hire out to a neighbor. In any event the course of post-graduate experience for the ambitious youngster is the same. He work for himself and hire help of his own, who serve their apprenticeship as he has done.

If all farm help were like this a vexed problem would be solved. The fact is, very few approach the ideal and many have no pride in their work; three meals a day and soldiering rounds out their hopes.

The trouble with most of them is that they do not want to work. They will work, but they do not like it. Unless a man enjoys his work he can not hope to succeed, and the reason why the employer in engaging help on yearly contracts, this is the only satisfactory way on the farm. Some farmers manage to get efficient and faithful service by some co-operative plan. If the hired man can be made to appreciate the motive ,an interest in the business even though small, is an excellent thing.

Many farm hands do not appreciate their opportunities. Having no expenses for board and needing a much smaller fund for clothes than most occupations, the farm lad's gross receipts

works for a while at modest wages, learning by practice the tasks and duties of the business; learning by reading and observing the principles underlying the science of agriculture; learning through self-respect and ambition—the dynamo of character—to govern himself, to lay up treasures of wisdom, patience, and executive capacity for future use. After awhile as he becomes more valuable he gets a raise, and if he has the right stuff in him he saves or invests much of his earnings and some day he is ready to

the world is full of failures is that so many men are looking for soft snaps. The word that fits the desire is not pretty. The truth is often unpleasant —there may be a better term than "laziness," but we have not seen it.

The employer may do much to encourage the inefficient, praising with discrimination and censuring with tact. Good pay and decent treatment generally procure a high-class helper; the stingy, harsh or cold-blooded employer doesn't deserve one.

Notwithstanding the odds against

is his net gain. He often makes more money than his employer's profits amount to. He has no responsibility and no anxiety as to crops or markets.True, he hasn't the fun of bossing the job, but if he is wise he will do his work so well that it will enable him to regard it as a temporary schooling from which he may graduate into that class where he can boss his own job.

A queer trait of human nature is that shown by a great many of the hewers of wood and drawers of water, in that they can't stand brotherly

treatment. Their previous experience may be responsible, but when an employer treats such with a touch of sympathy, or other than as a mere beast of burden, there is born in the heart of the worker a suspicion that something is wrong; he thinks the kindness is prompted by a selfish motive; that he may not get his pay or the boss is "working" him for longer hours. Sometimes it makes him conceited, and we have known an employer to utterly spoil a good man by voluntarily raising his wages.

The sympathetic employer is compelled to treat this sort on a strictly business footing and sometimes with severity. You can't feed sugar to a cross dog with safety. The thing for the down-trodden son of labor to appreciate is that not all men are tyrants nor entirely selfish. There is an employer occasionally who is partially selfish, but who retains some old-fashioned notions of consideration for others under his roof.

If all such could be mated with the industrious, honest and capable hired men, and all the curmudgeons would get the shiftless, no 'count fellows, a seal of the eternal fitness of things would be set upon this question of hired help on the farm.

Too often, also, are the round pegs in square holes.—Rural World.

Care of Colt's Teeth.

First have your crops looked after as soon as two years old, and see that as soon as they begin to shed their nippers in front, if they do not come out themselves as they should, and

are crowding the new teeth out of place have them pulled, as they will save lots of cribbing horses later on; also have the molars examined, as the new ones crowd them against the cheek or tongue, causing sores on both, and painful mastication is the result.

This branch of veterinary science has been sadly neglected in the rural districts, and two-thirds of the districts, and two-thirds of the diseases of the horse arise from painful mastication and result in indigestion, from the fact that the teeth become uneven, with sharp points wearing in decayed cavities and the outer edges become sharp and turn against the cheeks; the inner edges of the under teeth turning in and cutting the tongue, causing sores on cheek and tongue. This may be cured by properly operating on the teeth, as also the following—driving on one line, sloughing at mouth, quidding, tossing of head, shying, scouring when driven, running at the eyes, gnawing the manger, periodical balking.

Do not overlook the feet and teeth, as has been done in the past, as I am positive they have both deteriorated in the last twenty years. They are easy to overlook, and in trying to bring some other point or points to perfection, such as action, good mane and tail, the most particular parts of the horse are lost sight of, and once lost can never be regained.

There has been, says the Pajaronian, an unusually heavy sale of nursery stock within the past two weeks in Pajaro valley. The season is late this year and much tree planting will yet be done. Newtons and Bellflowers constitute the largest portion of the apple stock that is being planted.

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WE NOTICE that some of our Southern California exchanges are indulging in learned dissertations on the work of the thrip and the damage done by thrips. Now, the word thrips is singular and its plural form is thripidae. We trust our learned contemporaries in the South will note this strange fact, and not display their lack of entomological knowledge by using the singular for the plural form of the word and for the singular a word that has no standing.

THERE IS now little question as to the outcome of the present season. The copious rains of the early part of March have put the finishing touches on a very promising season, and made its promises a certainty. With a few late showers, which we are reasonably sure to have, crops of all kinds will be very good, and even without further rainfall they will be fair. Reports from all the counties of the State are to the effect that grain and hay never promised better than at present, and unless the unlooked for should happen, we shall have a bounteous harvest. With this is the assurance of good prices, for farm products. Wheat is now at a better figure than for years past, and the demand is likely to continue, as crops in Australia, which has had very much to do with the demand for coast wheat, are again a failure, and a competitor has become a customer. Fruit trees of all kinds are heavily laden with bloom, and the probabilities favor an exceptionally heavy crop. Very often hot weather in January starts the sap in motion, and forces the trees in bloom prematurely, only to have the blossoms caught in the late frosts and the fruit crop materially lessened. We have escaped this this year. Cold weather during the first months of the year have kept the trees back, and there is little danger from damage by frost now. It now looks as though unusually vigorous thinning will be required to produce marketable fruit. With hops, and beets, wool and stock, the prospects are equally promising both as to yield and prices. Altogether the season of 1903 is the most promising California has had in years.

One of the most useful implements of the modern, up-to-date farmer or fruit raiser is the spray pump. In the orchard it is one of the necessities. It is almost impossible for the fruit grower to get along without it, for it is the only weapon with which he can combat his numerous insect enemies and keep them in check sufficiently to allow him any part of the result of his labors. It is a necessary adjunct to the poultry yard, and is the best possible means of keeping the chicken houses in healthy condition. It is the cheapest and handiest means of whitewashing outbuildings, fences, and will be found useful for a score of purposes. Every farmer should have a good spray pump, and it should rank with the plow, the harrow and the mowing machine as one of the indispensible implements of husbandry.

Angora.

The Angora goat is as different from the hairy goat as the sheep is different from the Angora. It has its fields of usefulness that cannot be denied by the most ardent sheep breeder. The principal use to which they can be put is that of brush extermination; next, mohair products; third, as meat producers. In clearing land of brush this animal seems to have no equal. The sheep will take to brush, killing it if forced to do it; the goat takes to it because it is nature. He is a browser first and a grazer when there is no browse. In killing out the brush grass will come to cover the earth and such lands can be followed by sheep. It is really an interesting way to clear land of brush and they have been in demand for that purpose, says The Homestead.

The fleece is called mohair and is used for making plushes of all kinds. It is also extensively used in making rugs, astrakhan cloaks, etc., and the demand is greater than the supply, which has a tendency to keep the price well up in the scale of profit. The dressed skins with the hair on are used for rugs and robes, and many of them are used in the manufacture of capes for children, collars, muffs and cloak trimmings. When made up in this manner it is seldon sold under its true

name. As to its meat, we cannot speak from experience. We have been informed that it is superior to mutton, but we are inclined to believe this to be fishy. The kids make good eating; better than the meat of goats.

One of the principal troubles to which Angora goats are subjected is sore feet. The remedy is simple. About once in three weeks dust the hoofs, one by one, with powdered blue vitriol, if the flock is small. For a large flock make a large, shallow trough and set it between two gates, where they enter in reaching their shelter. Disolve enough blue vitriol in sufficient amount of water to reach over their hoofs when stepping into the trough and there will be no trouble with sore feet.—Practical Fruit Grower.

The Swine Herd.

Resolve to keep the hogs healthy. To this end supply them with an abundance of green food and waste fruit, if pasture is not accessible. When hogs break down in the hind quarters exclusive corn diet is usually the cause. This is due to the fact that corn does not supply enough mineral matter. A large box containing a mixture of salt, ashes and charcoal, to which has been added a few ounces of copperas will supply the necessary elements. One should be kept in each individual pen and in the hog lot as well.

If lice become troublesome, a mixture of kerosene and grease composed of different parts will effectively destroy them. It may be applied with a brush.

Keep the troughs clean and give the pigs plenty of good, clean water. Running water is not necessary. When a stream has become contaminated with cholera germs, it frequently carries the disease to all farms lying below.

All small grain should be ground before feeding to hogs.

One acre of soiling crops will support 10 full grown hogs or a larger number of young ones. Five acres in good condition will supply 25 sows together with the pigs. Of course it is understood small amounts of grain must be fed in addition.

In weaning pigs remove a few of the stronger ones and after a few days a few more, and so on until all are taken away.

When the pigs begin to drink give them skimmilk or a thin slop of water and shorts.

In Europe, where farm tenures are of long duration—some places being occupied for generations by the same family—the custom of naming the farm is as common as it is unusual in America. In Scotland and many other countries of the old world a farmer is known by the name of his farm, while in this country a farm is usually named from the patronymic of its occupant or owner. "The Smith farm," "The Baxter Place," or just Brownses," is the usual appellation. It has been urged of late that we adopt the European custom of giving the farm a distinctive name and many imaginative and poetic country people have already used up the supply of "Cloverdales," "Sunnysides," "Briarslopes," etc. "For those who like that sort of thing, this is just the sort of thing such people will like, and there is no objection to a survival of an old-world custom which is at best a sentimental one, providing the name possesses some real significance. "Clover Hill Manor," where no pear of clover grows and there is no hill and less manor, and "Codfish Hall" of ten rooms and an attic, savor of the ridiculous and smell of snobbery. Rather let us remain plain "Joneses" than such affectation.

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Vineyardist,
or an Apiarist,

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History of the Naval Orange

Although known in this country for the brief space of thirty-two years or so, no variety of orange cultivated at the present time has been the cause of so much controversy as the Bahia, Washington Navel or Riverside Navel. The variety is still cultivated in Bahia, where it is regarded as superior to other varieties cultivated in the province.

It is generally stated that the Bahia orange originated in Brazil, and while this is doubtless true, there is a remote possibility that the seed at least was introduced into the new world by the Spaniards.

Whether this surmise is true or not, it is certain that navel oranges were known many years ago. Regarding the first mention of the navel orange in citrus literature, B. M. Lelong in his work, "Culture of the Citrus in California, 1902, pages 52 to 53, makes the following remarks: "The first illustration of the Navel orange appears in a volume, 'Table xvi.—Historiae Naturalis de Arboribus et Fructibus, Libri Decem. Johannis Johnstoni, Medicinae Doctoris. Francofurti, o|m, MDCLXI, ('The Natural History of Trees and Fruits. Ten Books, By John Johnson, Doctor of Medicine. Frankfort on Main, 1662'), referred to as Aurantium foetiferum. . . . . Although no description of the navel orange appears in the text this is the earliest reference known."

In 1646 Baptiste Ferrari, a monk of the Society of Jesus, published at Rome his famous work, "Hesperides sive de Malorum aureorum cultura et usu, Libri Quatuor." On page 403 he describes and on page 405 illustrates a variety of orange "Aurantium foemima sive foetiferum." Of it Ferrari says: "This Aurantium imitates to some extent the fertility of the tree which bears it in that it struggles, though unsecessfully, to produce fruit upon itself. . . . On the end of the fruit is another, sometimes with a thin rind investing it, but more frequently naked, so far at least as the pulp (of the larger part) is concerned; this (second fruit) is composed of an inner medulla of about four spikes; the young brood, as it were, of fruits half seen pushing out through the gaming umbilicus which is sometimes more and sometime less closely compressed." This is a navel orange both by description and illustration.

There is such a striking resemblance between the illustration given by Ferrari and that reproduced by Mr. Lelong from Johnson's work that the writer is compelled to believe that Johnson copied his illustration directly from Ferrari's Hesperides.

Many writers since the days of Ferrari have referred to the navel orange, notably among whom may be mentioned Volcamer, who in his Herperidum Norimbergensium, 1713, referred to two varieties of navel oranges, "Aranzo de fior doppio," and "Aranzo di fiore Scorza doppio," which he described on pages 201-202 and illustrated on pages 202b and 202c.

A closer study of citrus literature may bring to light still earlier references to this interesting fruit. Should any one happen to find references antedating those mentioned in this article the writer would be glad to learn of them. H. HAROLD HUME.

Florida Agricultural Experiment Station, Lake City, Fla.

TAKE YOUR PICK.

ORANGE ACREAGE.

The season's planting of citrus trees in the immediate vicinity of Porterville promises to reach quite a figure, says the Porterville Enterprise. The new acreage is centered in two favored spots—Sunnyside in the Zante district, and Rosedale in the Plano country.

An ample supply of water has been developed in the last two years, and its proper distribution has resulted in this wide planting of land that formerly raised a crop of grain, into oranges.

It is a significant fact that most of the land is in small holdings—five and ten acre tracts—which points in a few years to a distribution of returns to individual owners living either on the land or in town. Hence an increased population and growing popular wealth.

ANTS SPREAD PEARL BLIGHT.

The statement is made in American Gardening, referring to pearl blight, that the blighted twigs exude a milk-white liquid; that this fluid the bees are likely to get and spread to the flowers of healthy twigs which they may visit. The bees would have no occasion for sucking up the virus, and there is no use in laying the blame on them, where common ants (very numerous in California, where the blight is the worst) crawl all through it and thence all over the trees. While the bees may spread the virus from a diseased to a healthy blossom, it is extremely improbable that they should seek out the poisonous sap from a diseased twig.

While I was in California looking through those great pear orchards, so fearfully blighted, I saw ants in great numbers crawling over the diseased and healthy twigs, and some of the twigs were covered with that deadly milky fluid. I believe the time will come when it will be proven that the bees are not the chief means of spreading the blight; that those ever-present ants that are continually crawling over the trees from top to bottom will be declared to be the real culprits.—Gleanings in Bee Culture.

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The Apiary

April is the month in which all colonies should be examined. We usually have some nice days in which to do this work. If any colonies have died during winter, remove the combs of honey that remain and place them under some other strong colony before robbing begins.

If any colonies have become queenless others can be procured from the South and substituted. Do not let the colony dwindle away for the want of a queen, for it may yield you fifty or even a hundred pounds of honey the coming season.

The bottom boards should also be scraped and cleaned from the accumulated cappings which always gather there during winter.

On top of the hives you will probably find ants gathered in the packing with thousands of eggs ready to hatch. Clean them out and sweeten up the hives in general. It may be that some need a coat of paint.

Get ready for the honey flow and give the bees every chance to build up. Section boxes and brood frames should also be gotten in readiness. It is easy to manage bees when the preparatory work is properly done.

I would set the combs from which the bees have died during the winter in an empty hive body and place them under a strong colony and close up all openings except the entrance under the lower body, compelling the bees to pass over the unoccupied combs continually when leaving or entering the hive. In this way the combs will be kept free from the wax moth until such time as they can be used for swarms or some other purpose.

When the queen gets crowded for space in the upper body she will go down and commence laying eggs in the empty combs below. These combs of hatching brood can be used to great advantage in building up weak colonies or making nuclei.

The wide-awake farmer does not wait until his bees have swarmed and are clustered on a tree top before he thinks of preparing a hive for them. All preparatory work, such as making and painting hives, wiring brood frames and getting the the section boxes ready for the anticipated honey crop, should be done at leisure times during winter and early spring, before the rush of other work takes place. How easy it will be to manage a dozen or more colonies of bees next summer, if everything is set in readiness now. For instance, if a swarm issues, it will only be the work of a few minutes to take a hive from the barn and hive the swarm into it. If a honey flow bursts forth suddenly what satisfaction it wil you to know that you have on hand a few hundred section boxes ready to set on the hives at once. If this work is put off until summer time it is more than probable it will not be done at all.

When feeding the bees be careful and not spill any of the sweets about the apiary, for robbing is often started in this way. When bees find they can obtain honey close by they loathe to go to the fields in search of it. It is the experience of beekeepers generally that those bees which once become robbers very seldom if ever take up the duty of gathering honey from the fields again.

MUCH PLANTING OF VINES THIS SEASON.

This year will be a banner one for the planting of vineyards in the vicinity of Lodi, and the number of vines going into the ground will be sufficient to swell the acreage to vast proportions. The unprecedented plelds of the past few seasons and the exceptionally good prices received for the product has induced the planting of hundreds of acres. While some are planting resistant stock, the majority are of the opinion that the added expense is greater than the business warrants, and are going ahead in the old way, upon the assumption that when the phylloxera appears is the time to fight it.

In the immediate vicinity of Lodi, among those who are planting vines are the following: George F. Schuler, Karl C. Benck and L. M. Haight of Stockton have finished planting 100 acres of St. George resistant stock. They have the largest acreage of resistant vines in this vicinity.

In the Acampo district, Woods Bros. of Stockton are putting in 125 acres on their place north of the river. Keen Brothers have finished planting 125 acres, A. Ray 30, J. McKinley 20, Ing Brothers 100 acres, and there are numerous others.

In the Woodbridge district N. V. Williams and E. A. Lee are planting 50 and 20 acres respectively and many others are increasing their acreage.

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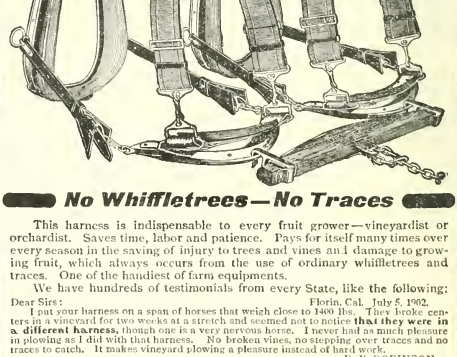

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Correspondence

S. L. D., Oakland.—Your roses are troubled with the rose aphis, a very common pest in the spring and when the plants are making their most vigorous growth. Sprap them with a solution of whale oil soap, one pound to five gallons of water, and apply warm.

R. D., Salinas.—You can get the year book of the Department of Agriculture by applying to your member of Congress. It is worth getting and keeping, as it contains very many papers of value to farmers.

A young farmer asks our opinion of the influence of the moon on the weather. It has none. This is shown by the fact that on the 24th of March they had heavy rains in Southern California, and there was none at all in the north. And this frequently occurs, that one part of the State is drenched, while the rest is in sunshine. This even occurs in places but a few miles apart, and yet we do not think that each section has a separate moon all to itself to regulate the weather for it.

J. H., Oakland, asks for the best grape vine to grow for shade, fruit being no object. Probably the Pierce, or the Improved Isabella—Isabella regia—as it is sometimes known, would answer the purpose as well as anything we know of. It is a free grower, has abundant foliage, deep green in color, and in addition is a free bearer of good fruit, to which we suppose our correspondent would not object if he got the shade.

E. S. P., San Jose, sends us ivy leaves covered with scale and ask the name and the remedy. The scale is the Aspidiotus rapax and the remedy, the kerosene emulsion, for the making of which directions have already been given in these columns.

Notes in Season.

Persons owning bees and not located near streams of water, should furnish them fresh water daily, as it will save time, which to the bees means honey, as it means money to us.

When the young queen is out, it is well to add a frame of eggs and larvae. This will furnish employment for the bees, and if the queen is lost on her bridal tour, furnish the means of rearing another.

There is nothing that aronses the anger of bees and causes a quicker resentment than crushing them between combs and under hive covers By using some kind of mat over the frames a large part of this difficulty will be removed.

One who has never cared for bees should remember that bees, like animals, are very apt to return to their old homes if they are near by. In buying a hive get them some distance from where you wish to keep them, or you may find them gone some day.

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To Wine Growers.

Large consumer of claret of New York City desires to correspond with party owning winery regarding making claret for the Eastern market. Address, *B. P., Tree and Vine.*

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In the Poultry Yards

BY J. C. WILLIAMS

Poultry Experimental Station.

That the enormous magnitude of the poultry industry in California is being recognized as it should be, was demonstrated when the recent appropriation by our State Legislature of $5000 a year for a Poulty Experimental Station to be located in the vicinity of Petaluma, was made. Great things can be accomplished for this great industry through the agency of this experimental station, providing the management falls into the hands of men who are experienced poltrymen, up-to-date business men, and level-headed, and who will work for the advancement of the enterprise. Otherwise, nothing will be gained. We will hope for the best.

New Breeders.

It is actually astonishing the people who find that they can make poultry pay so handsomely that they can afford to give their entire time to this line of business. Breeders are getting down to good common sense ideas, and not so much experimenting, therefore, more satisfactory are the results, and more encouragement to enlarge the business. New breeders are appearing right along, which is evidenced by the fact that there is such an increased demand for pure-bred poultry and eggs. Thoroughbred poultry was never so much in demand as right now, and breeders who have been trying to supply this demand, especially for eggs for hatching, have been taxed to the utmost to keep up with it. Many have been so anxious to fill all orders received that they have not kept enough eggs for their own incubators. However, even at the present rate of the influx of new breeders it is scarcely possible, and very improbable that the poultry market of California will ever be over-stocked, either with market or fancy poultry.

Shows.

The Oakland Poultry Association is considering the feasibility of holding its next annual show in Mechanics Pavilion, San Francisco, the grandest auditorium for the purpose on the Pacific coast, in the very heart of the largest city on the coast. Should the plan mature and be carried out, it will result in the largest and by far most influential show ever held anywhere in the West. Should it be decided not to hold the show in San Francisco the coming fall, there is but little doubt that it will be held next season in the metropolis. It has been seven years since a poultry exhibition has been held in San Francisco, and it is considered by all who have discussed it, as being the very thing to hold an immense Pacific coast event in San Francisco, making it the "Giant of the Coast." The shows held by the Oakland Poultry Association have assumed such large proportions that it is impossible to secure suitable accommodations in Oakland, therefore, it is almost compulsory that the headquarters of the Association be moved to San Francisco.

Owing to the financial difficulties of the State Agricultural Society, it was thought for a time that there would be no State Fair, but we are just informed that official announcement has been made that the State Fair at Sacramento will be held this year the same as usual, with a large poultry exhibition as a leading attraction.

INTERESTING EGG RECORDS.

Leghorns, which are called "egg machines," have been credited with producing 200 eggs apiece in a year, in considerable flocks flocks, and C. H. Wyckoff made a record of an average of 196 eggs each for 600 White Leghorns. These, it will be well to notice, were not "show" Leghorns; they had been bred mainly with an eye to good size and egg production. In that figure of 200 eggs apiece in a year, they are equaled by both Plymouth Rocks and Wyandottes that have been bred systematically for heavy laying. Some of the best authentic records of their egg-producing abilities are those of H. F. Cox of Pennsylvania, who got 195 eggs apiece from a flock of 120 Barred Rocks, while in small flocks records of better than 200 eggs each have been made.

F. E. Woods of Massachusetts got 210 and a fraction over eggs from a flock of ten White Wyandotte pulets which were raised from stock that had been bred for generations for great laying qualities. Dr. N. S. Sanborn of Massachusetts has Buff Wyandottes that made a record of 96 eggs each in their pullet year.

Further poultry news on pages 25 and 26.

The charm of a man is his kindness.—Bible.

Cruelty to animals is a vice of vulgar people.—Humbolt.

Do not become provoked. Keep cool; it pays.

No man has a right to distress a horse, to dock his tail, to clip his hair in winter, or to over-load or over-drive him.

Old horses should be favored. It is extremely cruel to demand hard service of them. They are like old men. Do as you would be done by.

Man is not the only animal that feels a sense of loneliness.

Both man and beast have a strong love for society.

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Queries and Answers.

BY JOHN ISAAC.

W. L. B., Sonoma.—The apple twigs sent in by you are covered with eggs of the apple aphis. The lime, sulphur and salt remedy will reach them, but must be used while the tree is dormant. For use when the trees are in leaf the caustic soda and rosin solution will be found the best.

M. R. S., Santa Rosa.—Apples trees should not be planted closer than 24 feet apart, which will give you 76 to the acre. Thirty feet on good land is even better, which gives 48 to the acre. Peaches, prunes and plums may be planted 20 feet apart, 108 to the acre.

T. H. M., Tulare.—The best way of disposing of ants is with bi-sulphide of carbon. Find their nest, scoop out some of the earth from it, and pour in a little of the bi-sulphide. This soon forms a gas that will penetrate every part of the nest and kill all the ants in it. As the bi-sulphide is very inflammable, you will have to be careful to keep fire away from it.

W. P., Watsonville.—Spraying for the codlin moth should commence very soon now, as the trees are already putting forth their blossoms, and the paris green should be present when the young moths are hatched out, which will be very soon after the young apples are formed. There has been no remedy equal to paris green, one pound to 200 gallons of water, yet discovered. The University of California is now carrying on a series of experiments in this line in your vicinity, and it may be that something more effective and cheaper will be discovered before the season is over.

O. J. R., Fresno.—The best time for budding the orange tree is in March and April, when the trees are putting out their new growth, and the sap is flowing freely. Buds inserted at this time, with favorable conditions will make very good trees by winter Summer budding may be done in June and July, but this is not so good a time as the spring. Fall budding may be done in September or October or even as late as November. In this case the buds remain dormant until Spring.

H. K. L., Oroville.—We do not know of any better remedy for shot-hold fungus, apple scab or curl leaf of the peach, than the Bordeaux mixture. It is cheap, easily prepared and effective. A very excellent preparation, but which is somewhat more expensive than the Bordeaux, is as follows: Dissolve six ounces of common glue by boiling in one gallon of water, also dissolve two pounds of carbonate of copper in four gallons of cold water. Mix the two, stirring them well. Dilute with warm water to make 100 gallons. Keep constantly stirred and apply with a fine spray.

Wm. S., Merced.—The insect of which you complain as damaging your pear trees, and killing the new growth, is probably the pear blight beetle (xylobonus pyri), which by the way bears no relation to the pear blight. This insect, in its larval stage, works in the twigs of pear trees, and eating out the inside wood causes them to wither and die. The beetle itself is a very small insect, about one-tenth of an inch in length, deep brown and black in color. If the damage is caused by this pest, the best remedy is to prune well back and burn the prunings. By this means many of the insects will be destroyed in both the larval and beetle stages.

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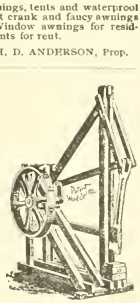

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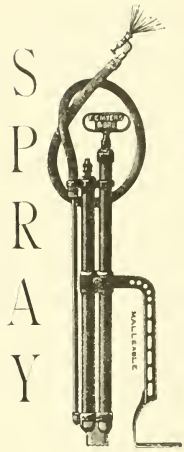

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Artificial Incubation

BY JAMES HAGUE

Any one engaging in the duck business and proposing to make money out of it must realize to begin with an incubator. Time was when the hen was indispensible. But, now old methods and appliances are being superseded by the modern (human inventions). The great advance made in the poultry industry the last quarter of a century has made the incubator a necessity. Our large broiler plants and duck ranches would be an impossibility without artificial incubation. In buying an incubator get a 126 egg size to begin with. Now level up your incubator with a spirit level so that the heat can circulate over and under the eggs evenly. Light your incubator lamp and run your machine until you have it regulated so that the thermometer stands at 103 degrees. Grade your eggs (that is, have the large ones in one tray and smaller ones in another, by putting a ¾ inch strip of wood under tray, on tray sides, with small eggs in, you can have all eggs on a level. Put the thermometer on the eggs, so that the bulb will rest between two eggs, with the other end the highest. Start your incubator cold, some breeders put in the eggs when the machine is heated up to 103 degrees. I start all my machines cold with the best results. Now that your machine is running, don't turn eggs until 48 hours have passed. Now add moisture. Put in just enough moisture to last two days, then run one day dry. (watching the air cells; if the air cell develops to large, keep in moisture, if it does not develop enough, run your incubator dry. Using your own judgement. Don't be afraid to cool the eggs. I know that those who have the best success with artificial hatching let the eggs have plenty of time to cool each day. So many are afraid that they will not get them hot again soon enough that they commence to work the regulator, as soon as the eggs are put back into the machine. While it is a fact that the regulators, when once set, should be left strictly alone. In cooling eggs I allow twenty-five minutes a. m. and p. m., my machines being in a cool basement. Incubators can be operated most anywhere as long as you can keep an even temperature, with good ventilation.

Eggs for Hatching.

It is a mistake to sell off all the old hens and depend entirely on the pullets for the eggs saved for hatching.

Chickens hatched from eggs laid by hens one, two and even three years old, are stronger, and usually make better fowls than those from pullets.

Hens after the first year lay larger eggs, and the chicks from them are, as a rule, hardier than from younger hens.

The old hens are more patient sitters and as a rule are better mothers.

We think it better to mate the two or three-year-olds hens with cockerels that have fully matured, and reserve the pullets, except those early hatched, for mark t eggs.

Much of the worry in raising chicks is the result of the weak stock. And the more we guard against such defects the less will be our trouble.

Strong, Healthy Chickens.

Success with poultry depends in large measure, on beginning, or, to be more exact, on the growth of the chicks up to the third month. It is, therefore, of the utmost importance that we exercise care in hatching chicks that have vigor and health, for it is such that grow rapidly and seldom have any kind of sickness.

Eggs that are used for hatching should be from hens that are kept in separate pens and especially cared for. No eggs should be set from flocks that run promiscuously together.

When the time for hatching arrives the choicest hens should be penned and only eggs from them used. By this method the fowls can be improved and each year will find us with better birds.

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Good Eggs

By A. Warren Robinson

"What do you charge per setting for your best eggs?" is a question often asked the specialist. The price is stated, and not infrequently objection is made. The remarks are to this effect: "At the stores such and such money is paid. Your price far exceeds that Don't you think you are asking a big price?"

Look at the matter in this light. Here is a person who has invested considerable money in pure-bred poultry, of the variety he thinks best suited to the purpose he has in view. He has taken pains to keep his flock in fine shape, infusing fresh blood from reliable yards from time to time. The culls he has sold at market rates. The eggs he offers for sale during the hatching season are carefully selected and are the result of long, painstaking, careful breeding and selection.

If these eggs command double the price of ordinary store eggs, or five times as much, even, are they not justly worth the price? Are they to be rated at the same figures realized from the eggs laid by flocks one so often sees on the farms of California—a mixture of many breeds, not the least care or thought having been given to their breeding? In the one case there has been careful, judicious breeding. In the other, things have been left to take their own course. Yet there are some persons who grumble at paying a fair price for number one, selected eggs.

The person who breeds pure-blooded stock, be it poultry, cattle, horses or hogs, is a public benefactor. He is thus esteemed by more persons now, than in years gone by. The farmer is often very slow to acknowledge the wise policy of getting his flock in better shape. But no other investment will prove more profitable.

How rapidly the breeding season is passing! Soon the long, hot days will come, when little chicks will not thrive so well as during the spring months. The best plan is to have plenty of incubators and at the most, hatch only during the earlier months of the year. One very large and successful poultry plant in the East, incubators are run not more than twice each season. Very early hatched chickens do well and those brought out in May and June may thrive. But the strongest hatches are those taken off in the season before mentioned.

Therefore, it is well to press things along this line. Use eggs from good stock—that is the first requisite. Careful incubation, and still more watchful brooding is needed if one wishes to attain the fullest amount of success. Plenty of nourishing food, a watchful eye upon the youngsters until the danger of overcrowding is past—these and other details need looking after.

To some persons the time may seem long ere the chicks develop into the well-grown pullets. Yes, many steps have to be taken, much watchful care given. But the mature flock gives one pardonable pride and then the needed care and fatiguing labor is forgotten.

Gapes.

There is no doubt that gapes are caused by a small worm gathered from the filth of the yard—usually in an embryo state and being warmed in the crop of the chicken develops the small worm which gradually interferes with breathing and produces that gaping which eventually ends in death.

Incubator chicks have never been known to have gapes, neither have those that are kept in clean, grassy plats. Only those that have had runs on bare ground, where filth was allowed to accumulate have ever had gapes, and all tests have shown conclusively that filth produced the disease. If the chicks are under the care of a hen, see that the yards are kept clean and change the location of the coops every few days. Keep lime scattered over the ground where there is no grass and do not let the chicks eat their food amid filth and mud.

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Fighting Frost With Water and a Hose.

Prof. McAdie of the United States Weather Bureau, who has been studying the frost problem, says: "The growers are now pretty well able to protect the orange trees from frost, but how to save the almond crop is a serious and very important question. The frost renders the almond crop about the most uncertain we have. I have made arrangements at several places to have a few almond trees set apart for special and experimental treatment during the frost season. These trees will be under my supervision and we will see what results can be achieved. One method of treatment will be to turn the hose on them. The water will freeze and the trees will be encased in ice. The scientific reason for the treatment is that the damage comes from the sudden warming up of of the tree after being chilled. The coating of ice will prevent this."

Prof. McAdie's experiment in this direction will undoubtedly prove a success. It is a well known fact that if tender plants in the garden are frosted during a cold night, they may be saved by sprinkling them with cold water before the sun rises, and there is no reason why the same remedy should not apply in the case of frosted trees. But there is another xiew of the matter. Trees will run about 108 to the acre. Frost fighting must be done between 4 and 8 o'clock in the morning, giving about four hours working time. It will take an ordinary man about ten minutes to spray the average tree, so that in four working hours he could treat twenty-four trees, or say four men to the acre, so that a hundred acre orchard—and this is not a large orchard by any means—wou'd require 400 men witn 400 spray pumps to fight frost by the method suggested by Mr. McAdie. Now, we don't know a single hundred acre orchard in California where they keep 400 men who would be willing to turn out at 4 o'c'ock on a frosty morning to pump cold water on cold trees.

A Farmers' Institute speciali.t has recently been appointed by Secretary of Agriculture, Wilson, whose especial duty it will be to represent the department at agricultural gatherings and to help improve institutes in various States. As a result of the civil service examination, John Hamilton, now secretary of agriculture of Pennsylvania, has received the appointment and will soon enter upon his new duties. Mr. Hamilton is a graduate of the Pennsylvania State college, and was professor of Agriculture in that institution for about ten years. He has been secretary of agriculture since 1899.

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In Favor of the Birds.

The Sonoma County Farmer hopes that the legislature will place more protection about the birds that are the friends of the fruitgrower instead of discriminating in favor of the various hunting clubs that have become so popular of late. Wherever there is an intelligent horticultural commission at work, "God's Sweetest Musicians" find active partisans. The following from a correspondent of the Fresno Republican shows the value of the feathered tribe:

"Every rancher should understand that birds, besides being ornamental and companionable, have a cash value, as protectors of fruit trees, and consumers of noxious weed seed. In this neighborhood the peach and apricot crop was far lighter in 1902 than in any former year. The fruitgrower cannot expect to succeed so long as birds are killed or driven out of the country by the use of trained dogs, and his trees filled with shot and destructive insects. A year ago a neighbor lost nine turkeys and we have lost our last tame dove Of course, hunters would not kill turkeys, chickens nor doves, neither would they shoot on forbidden grounds, unless they saw the opportunity of doing so.

"To be sure, birds eat early apricots, but for every pound eaten they save hundreds of pounds. In 1890 orchards swarmed with wild doves and other birds. The trees were loaded with fruit and nests; and fruit sold high. M. G. Gurtenlaub sold $9000 worth off of eighteen acres of orchard."

A new industry is to be established in Echo, Oregon, in canning Jackrabbits. The animals are to be captured in drives, such as are common in the San Joaquin Valley, and slaughtered as wanted. A large pen covering an 80 acre alfalfa field will be built, and from this wings will be run a mile each way. Whenever a new stock is required a drive will be instituted and the jacks from the whole surrounding neighborhood be driven into the pen. Here is a hint for Fresno county. The now pestiferous and destructive jack might be converted into a source of profit, and that once done, he would soon be reduced below the danger limit.

Fruit conditions improve as the season advances. Trees are now in full bloom, and there is every indication of a very heavy crop. Unless we have a thinning frost during the coming month, severe hand thinning will be necessary. While for many reasons a frost is to be feared, it might prove a blessing to many fruit growers, in reducing the need of help in the thinning season.

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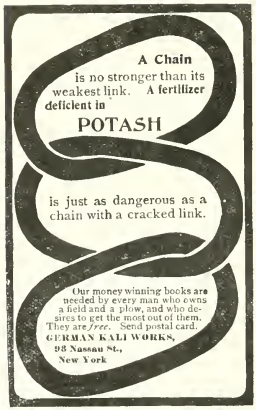

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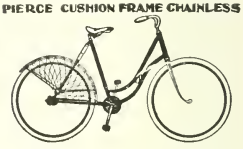

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A Recent Government Topographical Map of California

The United States Geological Survey has in press and will shortly publish an excellent topographic map of the Santa Susana quadrangle, embracing portions of Los Angeles and Ventura counties, Cal. On it will appear parts of the Pine Mountains and Zaca Lake Forest Reserve, the Santa Susana Mountains, and the northern side of San Fernando Valley. It will show the region near the headwaters of the Santa Clara River and that portion of the Santa Susana Mountains whose drainage is to be utilized for the municipal supply of Los Angeles. An interesting feature of this drainage is the fact that the water coming from the various canyons of the Santa Susana Mountains flows into the gravel beds of San Fernando Valley and is entirely lost to view, but emerges again at the lower end of the valley as a stream.

The topography, or relief, is clearly shown by contour lines passing through points of equal elevation, which not only show the altitude of all portions of the region, but accurately define the shapes and slopes of the mountains and valleys. The map is drawn on a scale of approximately one inch to the mile.

It has always been supposed that the Chinese were the most imitative people on earth, but when it comes to adopting and following the peculiar institutions of the white man, the Japs can discount them every time. At Oxnard the the Little Brown Man has been largely depended upon for labor in the beet fields and usually, at the most critical period, he has found a better job or is out for larger pay. Recently the Japs there have formed a union, a regular labor organization, with their walking delegates and agitators, "Alle same white man," and are now out for trouble. Recently some four hundred members of the beet workers' union composed mostly of Japs, with same Mexicans, paraded the streets of Oxnard, and urged othes laborers to join them in their demonstration. The grievance as stated is that the labor contracting companies have overcharged the ranchers and underpaid their employees, who do the greater part of the thinning and hoeing. As there are some 1,500 to 3,000 hands engaged in the beet fields the strike is likely to take on serious proportions.

Orange shipments from Southern California have fallen off about 400 carloads this season as compared with last. This is about four per cent of the total crop, and the end of the shipping season will probably show the decrease somewhat heavier; probably five per cent less as compared with last year.

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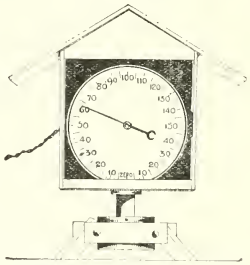

Cut shows plan of setting up the Bolton Electric Alarm Thermometer. Wires may be extended to any distance required.

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burns crude oil for deciduous orchards at a cost of 2½ cents for six hours of red hot fire. Get a sample and see the heat it throws out. One man with a torch can light up the whole orchard in a few minutes. We send a sample by express, prepaid, on receipt of 40 cents, to pay packing and forwarding charges

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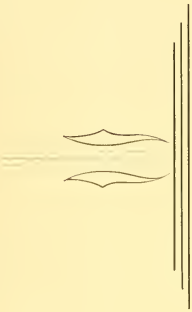

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The PACIFIC TREE and VINE

MAY, 1903

KEEP YOUR EYES ON PALO ALTO

Palo Alto Real Estate

Houses Sold during 1902
by J. J. MORRIS

56

If you are desirous of selling your home, list same with us. We have inquiry for houses from four to ten rooms. We are expecting an active spring trade. Our list is low at present.

$8,500—A beautiful home in Palo Alto. Large 2-story house of nine rooms and bath; all modern conveniences. Large lot — 150x280; family orchard; excellent neighborhood. Good value at $10,000. 29

$3,500—2-story house of seven rooms and bath; modern improvements. Location, Waverly street near University avenue. 42

$2,750—Seven rooms and bath. Waverly street near Hamilton avenue. Splendid bargain. Good value at $3,250. 56

$3,600—Ten rooms and bath. Large lot, centrally located. A very comfortable home place offered for sale at a sacrifice. Good value at $4000.

Town Lots and Farm Lands

Palo Alto—A place for your money where it will increase; I'll give you value for value in real estate; will make your money go as far as it ought, and get for you that which will increase your possessions; in town or out I have some very attractive pieces of property that will be worth owning.

Unimproved Town Property

Palo Alto—One whole block of land, splendidly located; can be subdivided advantageously — you had better see me about this soon.

Palo Alto—Another splendid bargain, ½ block of land, sightly located. This ½ block is to be sold this week—first come, first served. Chance to make a nice turn on the money invested.

Palo Alto—¼ block of land, location desirable, must be sold on or before the 28th inst. For a cash transaction this ¼ block can be purchased at a very low figure.

Palo Alto—A choice residence lot, close to Episcopal church on Hamilton avenue, 100x200, cheap. This is one of our best locations.

Palo Alto — 100x200 on Hamilton avenue; am offering this lot for $1000—the cheapest lot offered for sale in Palo Alto considering location.

Palo Alto—Lot 100x110, close to University avenue on Ramon street. Chance for a good investment. This property ought to be looked at. Must increase in value.

Improved Property

Palo Alto—Cowper street, sunny side, 10-room house, modern and attractive, large lot, splendid barn. See me about this piece of property, it is to be sold at a bargain.

Palo Alto—2-story house of seven rooms and bath, on Cowper street, to be sold furnished. This property is now rented and pays about 12 per cent per annum.

Palo Alto—9-room modern house, large lot, family orchard, 150x280; this property must be seen to be appreciated.

Improved and Unimproved Acreage Property

$4,400—22 acres of land adjoining the town limits of Mountain View. Good soil, desirable for residence or orchard purposes. 146

$5,250—13.90 acres on Giffen avenue, 7 acres of prunes and 5 acres of apricots in full bearing. New 8-room 2-story dwelling with closets, bath, etc. New modern barn, well and pump. Very convenient to Stanford University. Terms, ½ cash, balance on time. 147

$6,000—10-acre improved place, 1 mile from Mountain View and 3 minutes walk from Castro station, on a good corner; 5 acres of French prunes 7 years old, family orchard, 5-room house, large barn, tank, windmill, chicken house. Terms, ½ down, balance 3 years' time; title perfect.

$7,000—A beautiful home of ten acres best land in Santa Clara valley, planted with apricots 2 years old; 2 miles from Stanford University, and 1½ miles from the depot, fronts on the San Francisco road, house of 9 rooms, bath and cellar, nicely furnished, windmill and tank-house of 2 rooms, laundry, water piped over the place, vegetable garden and family orchard, large barn; chicken, pigeon, rabbit and dog houses; ranch is well fenced, fine double team, single and double harness, fine spring wagon, good road cart, tools, implements and wood. Insurance, $3,500. 19

$12,000—83 acres, 4 miles from Mayfield and Stanford University; house of 11 rooms, barn for 6 horses, water from spring. This is in the foothills and is a very pretty place. Terms, ½ down and balance on long time. 26

$6,000—14½ acres between Mountain View and Mayfield, all in bearing prunes; 350 Robe de Sargent prunes 100 grapevines, 10 acres French prunes, family orchard, 3-room house, fruit house, good well, 600 trays, fruit boxes, track, cars, and all necessary apparatus for drying fruit, fine large oak near the house. Terms easy. 18

$6,500—34½ acres of land near Santa Clara; 6 acres prunes; 1½ acres apples and pears; house, barn, tank and windmill; all necessary outbuildings. 44

$2,200—5 acres in bearing prune trees, on the Springer Road, 2 miles from the town of Mountain View; 4 room house and basement, well, pump, small barn, and nice oak trees. Splendid neighborhood; terms part cash. 65

$1,750—5 acres on Moody road about 2 miles from town, planted to bearing orchard, about two-thirds apricots and one-third prunes, free from frost, and very desirable for residence purposes; easy terms. 86

$12,600—A 60-acre home on the Homestead road, about 5 miles from Mountain View, in the warm belt, planted as follows: 25-acre prune orchard in full bearing, 30 acres young apricots, 2 years old. There is a 7-room dwelling with bath, etc. large barn, windmill, tank, tank-house, and all necessary outbuildings. The buildings are surrounded by elegant live oaks. It is well located and would make an elegant home. The orchard is in first class shape and can be purchased in 10-acre subdivisions at the following prices: Bearing prune orchard, $250 per acre; 2-year old apricot orchard, $200 per acre. 93

$4,500—10 acres on the Moody road, planted to bearing Salway peaches, 2-story, hard-finished house, tank, windmill, barn and cellar. This is very desirable property, situated in our best fruit and residence section, and very desirable. 122

125 acres of land 3½ miles south of Palo Alto, $135 per acre. Best fruit belt in Santa Clara county, surrounded by fine homes. 201

125 acres of the best fruit land in Santa Clara valley 3½ miles south of Stanford University, warm belt, excellent neighborhood.

J. J. MORRIS

Palo Alto - - - - California

Application made for Entry at San Jose Post Office as Second-Class Mail Matter.

The Pacific Tree and Vine

Published at 18 South Market St., San Jose, Cal.

VOLUME XIX. NUMBER 50 MAY, 1903. MONTHLY, 50 CENTS A YEAR.

Pests and Diseases of Deciduous Fruits

By John Isaac

(Paper read at the Fruit Growers' Convention, Los Angeles)

You will often hear the statement made by people who look regretfully back to the good old times that the fruit industry is going to the bowwows because there are such swarms of diseases and pests now to be combatted, and that, when they were boys, such things were unknown. Now, the fact is that, although not generally known, they existed as much then as they do today, but in those good old times fruit growing was an incident, not a business, and commercial orchards were rare. Our fathers grew a few trees for family use. If they bore good fruit, well and good; if the fruit was small and scrubby, no questions were asked as to the reason, and the young folks still ate it with a relish and remember its good qualities today. If the tree sickened and died, it couldn't be helped, and no especial attention was paid to it.

Of recent years, fruit eating is becoming more and more general. Fruit has become an article of merchandise. It is found on every table and in various forms. In the struggle for a better market, a wider demand and larger prices, every class of fruit has been wonderfully improved, and the full strength of the tree has been forced into the fruit, while the tree itself, as a rule, has become more and more delicate, bearing at an earlier age, passing its season of usefulness sooner and succumbing more readily to the attacks of disease and insects. Then, too, in our efforts to produce superior fruits, we have paid more attention to their ailments. We have studied their requirements and their sufferings closer, and are now aware of vegetable troubles that were wholly unknown or unnoticed by our ancestors. So much is this true that vegetable pathology and entomology have practically stepped from the unknown into the ranks of the sciences within the past century.

The reasons, then, why we have more troubles to overcome in our orchards than our ancestors had are that we know more about those troubles, that we have more trees to be attacked, and that our trees are more delicate. There is yet another reason. In our efforts to get the best, we have scoured the world over for varieties imported them from all parts of the globe, and with them have also imported pests and diseases that were hitherto unknow to us. There is no such thing, it is said, as unalloyed good, and so in this case, in our efforts to improve our stock, we have become the agents for the introduction of unnumbered ills and many pests which were originally confined to a limited area, but which have now become almost world-wide.

Now, the matter that bothers us is how to preserve what is good for us and eradicate that which is ill, and it is to this end that some of the ablest minds of the age have devoted their lives, and we have numerous methods, preventive and curative, adapted to the various diseases or pests to be reached.

Tree diseases may be roughly classed under two hears, fungus and bacterial. Among the former we have peach curl leaf, shot-hole fungus of the apricot, apple scab, rose rust, mildew and many other forms, with which we are all too well acquainted. The cause of curl leaf is a parasitic fungus, "exacus deformans." This disease appears early in the spring at the time when the trees are making their most vigorous growth and the tender leaves offer it the most favorable conditions for growth. It has its origin from two sources, the perennial Mycelium, which remains dormant from a previous season, and from the dormant spores shed the preceding year, which have formed lodgment on the twige and branches of the tree, awaiting the favorable conditions for growth which the spring affords when they spring into active life, atack the new leaves and tender growth and spread with wonderful rapidity, very soon involving the whole tree. Moist conditions are favorable to the growth of this fungus, hence we usually find it worse in wet seasons or in sections where there is much moisture in the air, while it is less virulent in its attacks in the dryer localities and dies out as the summer advances.

The history of the peach curl leaf is in a general way the history of most of the fungus diseases which attack our fruit, and their treatment is largely the same. For a winter wash, the salt, sulphur and lime is the most approved of our known remedies. This is excellent, both as a fungicide and as an insecticide, and should be thoroughly applied as late in the season as it is safe to use it.

When the young leaf or fruit buds begin to swell it is too late to apply it. After the trees are in leaf the Bordeaux mixture of reduced strength. 2 pounds of sulphate of copper 2 pounds of lime and 50 gallons of water, may be safely used and is recommended.

The second group of diseases are those of bacterial origin, and here we have a class that is more than usually difficult to reach. I believe it is even yet a mooted question whether these bacteria can be classified as of animal or vegetable origin, but it is certain that their work is carried on beneath the surface and spread through the sap of the tree, and we have so far discovered no remedy that does not damage or destroy the tree. In this class we find the pear blight, which has wrought such destruction in our state: the olive knot and kindred diseases. The disease, in these cases, finds entrance in some tender part of the plant. In the case of the pear blight, through the blossoms largely, and being taken up in the sap spreads through the cambium layer and gradually involves the whole tree. It is insidious in its work and often passes unnoticed until the greatest damage is accomplished. The germs in some of these diseases may be carrier by the wind, but more frequently insects are the principal vehicles of their spread. In the case of pear blight there is little question but that our honey bees are an important source of infestation, flying as they do from blossom to blossom and carrying the germ of the most susceptible point of entry of the plant. At the same time, I question very much the advisability of shutting the bees out of the orchards, as other insects and wild bees, which cannot be removed, are equally culpable.

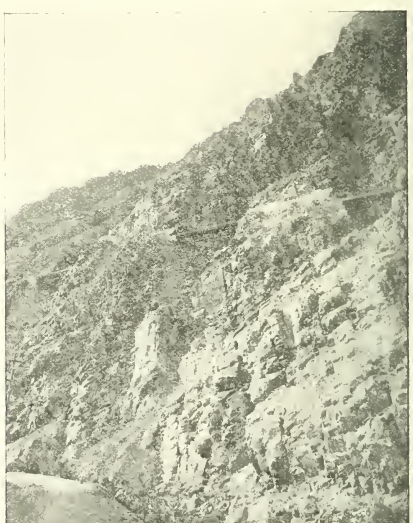
The remedy for this disease is to injure the trees. When the tree is making its most vigorous growth, the sap is flowing freely, and it is then that the germs spread most rapidly. As the season advances the growth stops, the wood hardens and the disease is checked. If the trees are neglected, uncared for and stunted, the disease will be largely checked. The disease may be largely stopped to some extent if when the first evidence of it are observed the diseased portion is cut back well below the point of attack. The trees should be gone over in

the fall and all wood showing any indication of the disease removed; this should be followed during the growing season by the removal of all portions which have been attacked and all wood removed from the trees should be burned and all tools and implements used for pruning should be disinfected. For this purpose a solution of five per cent carbolic acid is effective. Spraying, fumigating and all other external remedies are utterly worthless, as the disease is in the sap wood of the tree, protected from all external influences.

There is yet another group of diseases which have proved very serious and which are as yet unclassified. These are such as the peach yellows, peach rosette, Littles, Anaheim disease, etc. It is not yet known what causes these diseases or what remedies can be applied. As they are not responsive to external remedies, however, it is quite probable that they are bacterial in their origin. Fortunately, except for the vine disease, these scourages are unknown to our fruit growers, and by quarantining against the sections in which they exist, we may be able to prevent them from obtaining a foothold in California.

For practical purposes, pests of deciduous fruits, like the diseases, may broughly classified under two heads—insects that gnaw and insects that suck. Under the former classification, we include the larvae of the different moths and butterflies, all the beetles and some others. These do damage in various ways, some by gnawing into the fruit, like the codlin moth, others by burrowing into the wood, like the peach tree borer, others by eating the foliage or fruit, like the Diabrotica. Among this class we find some of the worst pests with which the orchardist has to contend, as many of them conduct their work under cover where it is almost impossible to reach them and their destruction involves the destruction of the fruit or great damage to the tree. The best means to circumvent this class is preventive. Where their habits are known, methods should be taken to keep them out of our trees and in this case an ounce of prevention is worth many pounds of cure. In the case of the peach-root borer, it is much easier to erect barriers against the parent moth to prevent her laying eggs on the tree than it is to dig out the larvae after they have become established. The protection of young trees from the sun by shading their trunks until they produce enough top to supply a natural protection will go far toward keeping out borers from young trees. But there is still a large class that cannot be circumvented in this manner, and for these the use of arsenical poisons has been found the best method of fighting. Paris green is the standard remedy for the codlin moth and all the leaf-eating insects, and while this method is a cumbersome and expensive way of fighting our little enemies, it is yet the best at our disposal. For the whole group of gnawing insects, then, the two standard remedies are preventives and poisons.

The second group are the sucking insects. Here we have a very large array of injurious insects, for while some suckers are beneficial, the great majority of them are destructive. In this group we have the large and serious family of Coccidae or scale insects. It is not necessary to take up your time by describing these, as you are probably as well aware of the damage done by them and the experience of fighting them as I am. There are in this family some 2000 named species, some of which we have in California. The Aphis family also comes under this class, and these two are probably the most numerous, widespread and destructive of the sucking insects. Their method of operation is to insert their rostrum or beak into the sap wood of their host plant and deprive it of its life fluid as rapidly as possible. Their rapid increase causes them when once



started, to soon cover the plant which harbors them, and while one is insignificant, when they are at work by millions, the plant is soon weakened. Now, for this class of insects, of course, external poisonous applications are worthless, although I have met with people who had such faith in paris green that they used it for aphids. With their sucking beak well inserted below the surface of the plant, no poison will reach them unless it could be forced through the sap of the tree, and this is not probable. To reach there, therefore, a different method of attack is necessary. Preparations that kill by contact are necessary, as whale oil soap, the kerosene emulsion or the resin wash, are usually effective, and where these will not reach or are ineffective, hydrocyanic acid gas will do the work.

It is not improbable that in time we shall be able to restore the balance of nature by the discovery, introduction and distribution of parasitic and predacious insects so that our present cumbersome, inefficient and expensive methods of fighting pests will be largely, if not wholly, rendered needless. We have already by this means greatly reduced the number of our destructive insect enemies, and are keeping those that we have reached in a state of "innocuous desuetude." At present there are not over a half-dozen really serious pests of deciduous fruit trees, among which is the codlin moth, the woolly aphis, the peach-root borer and the various forms of aphids. For the latter, the lady-birds are an efficient check and while the pests apear in large numbers at some seasons, they also as rapidly disappear.

Even under the most favorable conditions, however, we can never hope to be free from insect pests, for there will always be occasional serious outbreaks, but with their natural checks thoroughly established, these outbreaks will be spasmodic and not continuous, as in some cases at present, and will continue only until their check can again overtake them. In the mean time, it behooves our orchardists who would have marketable fruit, or, often, any fruit, to watch and spray.

Household Notes

When beating the whites of eggs, the addition of a pinch of salt will cause the eggs to come to a froth more quickly.

A deposit of alkali should never be allowed to accumulate in the tea kettle. Remember that tea kettles should be washed like any other utensil.

Knitted dishcloths are a great improvement over cotton ones. They are easily made. They are best made of coarse, soft, unbleached cotton, about half a yard square.

How many housewives wash the dish towel cloths daily? Yet it is a bit of kitchen work that should never be overlooked. The cloths should be washed and scalded daily.

For cleaning bath tubs, kitchen sinks, removing rust and as an aid in making articles sent to the weekly wash white, kerosene oil is valuable. A few drops of kerosene added to starch will give the clothes a gloss and make the ironing easier. When boiling clothes add a tablespoonful of kerosene to the water.

Apple bread pudding is delicious if made of good, easily cooked apples. For this butter a baking dish and nearly fill with pared and thinly-sliced apples. Add spice, sugar, butter, and a little cold water if the apples are juicy, more if they are not, and cover with grated or ground bread crumbs. Cover the dish and set it in a shallow pan of hot water and let it bake slowly until done. Serve with plain, rich cream.

A delicious cordial that may be used as a liquor and dinner cordial is made from three quarts of ripe red raspberries and one quart of pure cider vinegar. Let them stand together twenty-four hours, then squeeze, strain and measure. To each pint of the liquid allow one pound of white sugar. Put all together in a preserving kettle, and boil half an hour, skimming constantly until clear. When cool, add to each quart of the shrub a full gill of French brandy. Bottle and seal.

To make hoarhound candy, put a teaspoonful of dried hoarhound leaves in a cup and pour over them half a cupful of boiling water, cover it and let it steep until cold, strain and pour it over a pound of granulated sugar and a tablespoonful of vinegar. Boil without stirring and if any scum rises to the top, remove it. Test the candy in cold water, and when brittle remove it from the fire, and pour into a buttered pan. Mark into squares before it is cold, or break into irregular pieces.

An excellent and inexpensive bluing may be made at home by dissolving one package of blue diamond die for cotton (the dye only) in a quart of boiling water then strain through cloth and bottle for use, says The Household. The dye powder should be wet with a very little cold water before adding the boiling water. When making starch for skirts and collars the addition of a teaspoonful of powdered borax to a quart of starch will add greatly to its stiffening qualities and make the ironing easier.

The coffee and teapots are often neglected and are not in good condition for brewing good tea and coffee. They should be washed out every time they are used, Do not use too much egg to settle coffee; that which clings to an empty egg shell is sufficient, or a few drops of egg is better than too much. Put the cream in the cup before you pour in the coffee. The taste of coffee is enjoyable, but it is a dangerous stimulant to most people. Tea is less harmful than coffee, but both tea and coffee make people nervous and stimulate them more seriously than many alcoholic drinks. Tea should not steep or boil. Simply pour boiling water over the tea grounds and let it stand five or ten minutes before drinking.

A lady can secure a salary to introduce MERLINE, the new toilet preparation which prevents under-the-arm perspiration, doing away with dress shields. Send Fifty Cents for sample bottle and full particulars. MERLINE COMPANY, 144 Union Square Ave., San Francisco, Cal.

Bright, sunny rooms are lovely in delicate shades of green and blue, while cold north rooms are more attractive in warm browns and deep reds. Of course, one can get as expensive paper as one can afford, but very delicate and pretty shades of paper can be bought very cheaply, and it does not cost so much to re-decorate the whole interior of a house and nothing but the direst poverty is an excuse for having the humblest home anything but cheery and attractive. If the floors are of soft wood they must be either carpeted or painted and laid with rugs. If the floors are of hard wood they should be thoroughly cleaned and when dry oiled with warm boiled oil. If the oil is too hot it will darken the floor. But some prefer dark floors, and in that case some sort of stain may be added to the oil. To oil a floor easily put a piece of soft flannel in the mop and rub the floor thoroughly with the warm oil exactly as though you were mopping, and then go over it the second time with a dry flannel cloth to take up the surplus oil.

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INTERESTING TO FARMERS

Small Fruits and Berries

The strawberry is different in many respects from all other fruits. If I set out a strawberry plant this spring, it will attempt to bear fruit at once, since its blossom buds were formed last fall, and they must push out in bloom, without delay, but the removal of the plant makes it impossible for it to bear the full crop of fruit that it would otherwise have borne. Planters advise cutting off the blossoms as fast as they appear on strawberry plants set out this spring. A newly planted strawberry plant soon becomes established in its new home, and when it has done this, it sends out runners to make new plants. The raspberry does practically the same thing, sending out roots in various directions which throw out buds that make new canes and new plants. It is evident from this that the parent strawberry does not expect to live on, year after year. Its principal work is done within a year after that. The new plants sent out from the parent plant are expected to furnish the larger part of the crop of strawberries, but if the ground is fertile, and is well cared for, and the plants are not crowded too closely together, the parent plant will continue to blossom and bear fruit for three, four or five years, according to the vigor of the variety. Where strawberry plants are crowded closely together like grass in the meadow, they cannot give good results in large and beautiful fruit. Some varieties are inclined to make new plants much more freely than others. The proprietor must see that the plants in the strawberry bed do not become too crowded, and that the young plants have room in which to develop. If the old plants can be entirely removed after they have fruited, and new plants have taken root, it would be the best thing possible for the strawberry bed, and the old plants are thus removed in many instances where the plantations are not too large.

Varieties of great vigor, like the Corsican, will continue bearing fruit in the same bed for many years. Old strawberry beds should be enriched each season by sowing over them, when dormant, wood ashes, or scattering freely, barn-yard manure. The man who loves strawberries sets out a few rows of new plants each season. He may allow his old beds to remain, but he does not depend entirely upon them. The careless man thinks when he has planted strawberries once that these will do for a lifetime. He does not care for them well, allows them to become smothered in weeds and grass, and then after three or four years wonders why his strawberry beds do not produce more fruit.

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First Prem. State Fair 1901.

A New Sulphur and Dust Bellows

A very useful implement in the orchard or around the farm is a sulphur bellows or a dust sprayer. We have recently examined one which seems to answer its requirements in a very perfect manner and to do the work better than the sulphur bellows in common use. This is the invention of J. H. Hillis, of McFall, Mo. and is now being manufactured by the Tulare Dust Sprayer Manufacturing Co., of Tulare, Cal.

It is a machine with a reservoir holding one gallon of lime dust and powder; a bellows, which is operated by a lever, forces the dust from the reservoir, and tubes or pipes are provided for carrying the dust to the point desired.

There are many purposes for which a dust sprayer can be used, as for sulphuring trees for red spider, dusting pear and cherry trees for slugs, using tobacco dust on small flowers and plants for aphis, using powdered lime for disinfecting, and many other purposes that would suggest themselves on a farm. It needs no argument to prove that it is at once more effective, easier and quicker to spread dust or sulphur through a tree by means of a bellows of this kind than it is to do the same work by hand.

A man who does not grow much fruit, but who thinks he could if he wanted to, assured us that he had found scraping his trees a very effective way of getting rid of scale insects. There is little doubt that he is right and that all that he scraped off would die. Another effective way would be to hit them with a hammer, and we will guarantee that every scale that gets a whack will die, but neither process is to be recommended on a large scale. It is impossible to go over a whole tree and scrape off all the scales, and simply to scrape them off the trunk is useless. It is strange that there are people who practice laborious and ineffectual methods of doing things when there are simpler and effective means of doing the same thing. A good spray pump will cover more ground and do it better, reaching every part of the tree, in a few moments, than a man with a scraper could do in a day. Our only reason for alluding to this is to show that there are some absurd people still.

Orange growers are met with an unpleasant situation. A very large part of thsir crop is still on the trees, there is a great shortage of cars, and they cannot move their fruit to market as fast as it should be sent forward; small fruits will soon make their appearance in the eastern market, soon followed by earlier tree fruits and the market for oranges is growing daily less.

Complaints reach us to the effect that apricots are dropping from the trees so fast that there is danger to be apprehended that the crop will be a failure. These reports are general from all the apricot sections, and the damage is attributed to the heavy March rains and the cool weather which succeeded them. This had the effect of chilling the tender fruit stem and causing the fruit to drop from the tree. It is difficult at the present time to decide how much truth there is in the rumors, and it may turn out that the fall of the young fruit may not amount to more than a necessary thinning, and that later developments may show a good crop and as much as the trees ought to bear. There is usually a late frost in the spring and invariably after it occurs reports reach us that the whole crop has been destroyed, but later developments always show that enough fruit has escaped to make a tolerably full crop. It is a fact, that after these spring freezes, it looks as though every piece of fruit had dropped from the trees and it may be so in this case; the damage is not probably so great as it seems and there will be a good apricot crop.

In selling honey to groceries, especially wholesale stores that buy to resell in bulk and ship, I often found the need of a small cheap jar or tumbler that would seal tight, and could be retailed for ten cents apiece after being filled. The ordinary one-third pint jelly-tumbler answers the purpose for the home city trade; but there is no way of sealing it tight enough to ship with safety. The empty jars ought not to cost over three cents apiece and ought to be in cases holding two dozen in a case.—Bee Gleanings.

To feel perfectly safe while working with the bees, it is necessary to wear a veil. They are easily made and it is fool-hardy to try and get along without one. Take any kind of veiling with large meshes and sew to the rim of an old straw hat. Have it long enough so that the lower edges can be tucked under the suspenders or inside of the coat collar.—Orange Judd Farmer.

Beekeepers, as a rule, have considerable confidence in the future. We judge so, as this is one of the years we do not ask them and beg them to buy their supplies early. Indeed, they are rushing matters and seem to have the impetus that business men of other callings have.—Progressive Beekeeper.

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50 CENTS

The Cathola Eye Remedy Co.
San Francisco, California

A Serious Pest

The fruit growers of Santa Clara have made up a purse of $1000, which is offered as a reward to anyone who will invent or discover an effective remedy for the peach root borer, which has developed into one of the worst pests with which the prune and peach growers of the Santa Clara valley have ever been afflicted. The difficulty of fighting this pest lies in the fact that its attacks are all under ground and hidden from view. Often the first intimation that the orchardist has that the borer is present is the death or weakening of the tree which harbors them. Being inside the wood as well as under the ground, it is doubly difficult for over fifteen years in this State, and for fifteen long years the grower has fought it in every conceivable way. Many different remedies have been used and recommended, and still the pest is as numerous as ever and attacking more varieties of roots now than when first recorded.

As the larva or borer presents the most vulnerable stage of the insect's life, the most successful attack is made at this stage. The methods for fighting it are two-fold, viz.: preventive and destructive. In discussing these methods it will be well for us to begin with the latter. The destructive methods used against the borer are either the tedious way of digging it out with a knife or chisel or with an especially made instrument, or by the use of strong washes applied to the trunk and roots below ground or by the fumes of carbon bisulphide.

In looking over the various remedies which have been used since the insect became known, I find the following which have given good results:

The Digging-out or Worming Method.—The digging-out or worming method is no doubt the surest way to know that the borers are killed, provided that good conscientious workers can be had. The best time to do the work is in November or December. The soil, which should be moist enough to crumble, is removed from around the tree and the bark scraped free from all clinging materials, such as gum and earth. With a knife or chisel, or, still better, the regular tool, composed of hook, scraper and chisel, the search for the borer is made. First find a channel and follow it up or down, using the hook, and locate the borer. Make a thorough search for every one until you are satisfied that all borers are out of the tree. Care should be exercised not to take too much bark off—only the necessary quantity to get the borers out. The trees may be left open for a few days, especially if moist weather prevails, and then can be covered up until spring, when some preventive may be used, as shown later on. Some growers have dug for borers twice a year, generally in May or June, with good results.

Shallow-rooted trees are attacked more severely than trees planted deep; and trees with root-knot are also favorite places for the borer to thrive.

Carbon Bisulphide.—To get the best and quickest results from the carbon bisulphide fumes, the soil surrounding the tree should be as loose as possible. To accomplish this, remove the soil from the base of the tree. It should be from six to eight inches from the bark to the edge of the trench, and as deep as there are indications of the borer; the gummy masses and castings indicate the location of the borer. Then this trench should be filled up to the level with some mellow soil from the surface of the ground. Now we are ready to put the carbon bisulphide around the tree; from one and

to get at them even after they are known to be present, and often, too, the destruction of the pest almost, if not quite, involves the destruction of the tree, as they have to be dug out with a specially made tool, and as there is sometimes a large number in one tree, by the time they are all dug out the tree is seriously damaged. Bi-sulphide of carbon is sometimes used, but even with the greatest care this is liable to kill the trees and it is therefore not as much in favor as the digging out method. Mr. M. Ehrhorn, perhaps the best posted man on this particular insect, in the State, having made a special study of it for many years, gives the following as the best methods of fighting it:

The peach-root borer has been known

one half to two and one half ounces are used according to size of tree. It is safest not to put the liquid on the bark, but about one and a half or two inches from it. After the liquid has been put around the tree, it should be immediately covered with six or eight inches of pulverized soil and pressed down with a shovel. If these directions are followed there is no reason for failing to kill the borer. Experience has taught us that the fumes will remain about the tree for from a few days to a couple of weeks, and if rain should fall after the application, some damage may result. We therefore recommend the removal of the soil from the trench, after a few days; or if rain should follow the application, the soil should be removed at once. A few years ago, in 1896, when this remedy was first introduced by Mr. Cragin, people were too anxious to try it, and, in the endeavor to do a good job, overlooked some important points; the result was some damage to a number of trees. Since that time, however, some of our more careful and experienced orchardists have tried the liquid and would not use anything else now. This remedy, applied in November or December, and followed with the lime, coal tar, and whale-oil soap wash, as a barrier, will reduce this terrible pest.

Strong Washes.—Some caustic soap washes have been tried against the borers without first digging them out. Although in some cases such treatment has worked well, mostly where young larvae exist, yet for the old larvae it will not give results which would warrant the cost of the wash and the labor. In the Eastern States coal tar or gas tar is used in this way, and from reports received, good results have been obtained, even with nearly full-grown borers. In California we have always been warned against the use of this material, owing to our dry, hot climate, yet some very good results have been obtained when the tar was kept below the ground. We have had damage where the tar was put on the body of the tree, even only a few inches above the ground, still sufficiently exposed to the hot weather to drive the oils into the bark and wood so as to kill portions of the tree.

Tobacco.—During the spring of 1902 I applied some tobacco dust to a few badly infested trees, and on examining them this fall I found but two borers in six trees treated. I found that the bark and earth touching the bark had been saturated with the liquid tobacco. I shall try further experiments next spring and hope for better results. I used about half a pound to the tree, and this was covered over so as to prevent the wind from blowing it away. In the Eastern States tobacco was used by binding tobacco stems (the midrib of the tobacco leaf) around the trunk and then covering with earth. Some good results were obtained, and it is thought that the liquid, which the moisture brings out of the stems, did the killing. Tobacco dust and stems can be had at any of our cigar factories, stems sell for one cent per pound and less, tobacco dust for two cents a pound.

Gas Lime.—Some years ago it was thought that gas lime would be a good remedy and would likely kill the borer in the burrow. Experiments were tried, with fatal results to the tree. I mention this, as upon several occasions inquiries as to this material have been received.

Preventive measures or barriers are substances which prevent the young larvae from entering the tree, and it has been the endeavor of the experimenter to find some substance which would be least affected by rain and which would yield as much as possible to the expansion of the trunk of the tree.

Paper.—Good paper has lasted better than many other barriers, and very successful results have been obtained. We have, however, had also great failures, and these can be attributed to the fact that the small borers—those that are just beginning to enter the bark—were not taken out of the tree. As I have stated above, these small borers are often overlooked, and if enclosed under any paper barrier will continue feeding and doing damage, which will be discovered when the paper is removed in the fall. Some failure may be attributed to weather conditions (rain and wind), which soften the paper and cause it to become torn in places, allowing the borer to enter undisturbed. If paper is to be used, good stout paraffine paper is the best. Enough soil should be removed from around the tree so that the paper can be put at least six inches below the surface; it should also be placed at least eighteen inches up on the trunk. The paper should be tied with cotton string in several places, to hold it tightly around the tree; and it should either be folded upon its edges or given a broad lap. These barriers should be put on about the middle of March, and this may be said of all preventives or barriers; the object being to have the tree protected before the moths fly.

The smallest cows in the world are, probably, the Guinea breed. One of these little cows, reported by a Florida correspondent, weighs less than 300 pounds, is five feet long, 39 inches highest shoulder, and 42 inches behind. Her mother, still living, weighs about 400 pounds. She is a first rate milker, giving at times 16 quarts per day.

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Pear and Cherry Slugs

The cherry and pear trees are now in their full foliage, and the destructive pear and cherry slugs are beginning to get in their destructive work. These pests sometimes attack trees in such numbers as to almost defoliate them, seriously injuring the trees and ruining the crops. The adult of these slugs is one of the saw flies, the female of which lays her eggs on the surface of the leaves early in the spring. These eggs hatch out in about ten days and the little slugs ars at first light colored, but they soon cover themselves with a dark secretion. When the larvae are full grown they are about half an inch in length. The upper surface of the leaves alone is attacked, and the insects are more easily reached on this account. The remedies are the paris green spray, one pound to 200 gallons of water, as used for the codlin moth on apples, common road dust or air slacked lime. The slugs are covered with a mucous secretion and the application of dry dust adheres to this and dries them up. The lime possesses caustic as well as drying qualities, but perhaps the road dust is as effective as any remedy, while being the least costly and the easiest applied.

Lime, Coal Tar and Whale-Oil Soap

Probably the best preventive used today is a compound of the following ingredients:

Unslaked lime	50 pounds
Coal tar	1½ gallons
Whale-oil soap	12 pounds

To make the compound, slake the lime and tar together, adding enough water to make a moderately thick whitewash. Dissolve the soap with hot water and add this to the lime solution, adding enough water to make a thick, paste-like whitewash. For economy, some fine sandy soil may be added to make quantity, but not too much, otherwise the compound will become too brittle when dry, and will lose its purpose. Paris green and sulphur have been added to the above compound, but experience has shown that no results have been brought about by this addition, so that the money spent is only wasted.

I may mention here that the mounding process—the piling of earth around the tree—has been tried, but owing to the different habits of our species, it does not work as well here as it does in the Eastern States. All preventives should be used with the destructive methods and applied as directed above. Trees must be treated every year as long as this pest appears in a locality, otherwise it will never be kept in reasonable check so as to give the grower peace.

There will be a very heavy beet crop this year, and the factories are preparing for the longest run in their history. The season has been an especially favorable one for this crop. Rains have been abundant, have fallen at very satisfactory intervals, and the copious March rains came to cap the climax of a good season. Some of the crop in Ventura county was put in in November and December last. This will be ready for slicing in June, and it is stated that the factory will be started up in July. The sugar farmers, in company with all other branches of producers, seem destined to have the best season they have had in years, if not the best in the history of their industry.

Some people fail with raspberries because they do not secure the right soil in the first place and second because they do not maintain fertility. After the roots are planted the canes that shoot up one year will produce fruit the next season. They should then be pruned out to give the other new canes a chance to bear.

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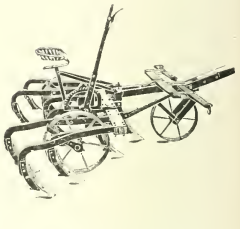

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The Very Best In the Market

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221 SANSOME ST. SAN FRANCISCO.

Flowers Tell Time

Largest Time Piece Ever Built, Designed Entirely in Flowers, is a Floracultural Feature of the Louisiana Purchase Exposition

With its mechanical frame quite concealed beneath beautiful flowers and vari-colored foliage plants, the mammoth floral clock that may be seen at St. Louis by visitors to the Louisiana Purchase Exposition in 1904, will be by far the largest time piece ever constructed.

The floral clock is immediately north of the Agricultural Building, and to the visitor appears to be made entirely from contributions from the floral world. The mechanism of the clock is buried and the huge dial, 100 feet in diameter, shows its face six inches above the ground. The dial, the hands, the minute hand being fifty feet long and moving five feet at each move, and all the frame is so covered with flowers as to quite conceal any mechanical contrivances.

The numerals marking the hour are fifteen feet in length and are made of bright colored coleus, a foliage plant that grows dense and may be pruned with the gardener's shears and kept symmetrical without fear of impairing the growth of the plant.

In the circle surrounding the numerals are collections of twelve distinct plants, each collection being twenty-five feet long and twelve feet long. Nature has ordained that each of these plants should open its blossom at a certain hour of the day, and the great floral clock shows how the laws of nature are as exact as the mechanical laws discovered by man. As the hands of the giant floral clock reach the numeral naming a certain hour the flowers in the great bed at the back of the hour so designated begin to open their buds and to exhale the perfume peculiar to the plant.

Still another mode of computing time will be shown by this immense recorder of time's flight, and this by the primitive hour glass. On the south side of the hour dial, behind the numeral that denotes midday or midnight, is built a tower, twelve feet square and eighteen feet high. The tower is of wood, and like most o the beautiful structures within the City of Knowledge, is covered with staff. The architecture is graceful and ornate. The top of the tower is surmounted with a mammoth hour glass, made of the heaviest and clearest crystal with the receptacles for holding the sand, each six feet in length and three feet in diameter, at the base. The hour

L. N. COBBLEDICK.

Barred Plymouth Rocks...

Oakland, California

Twenty Premiums Won

at Oakland Poultry Show Dec. 1901.

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Exclusively.

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Berkeley Poultry Yards

White Plymouth Rocks Exclusively

I make a business of breeding these beautiful and useful birds. My birds won 1st and 2d prize on breeding pens; 1st on pullets and 4th on hens. My birds are the highest scoring birds on the coast. 1st pen scored from 93⅛ to 95½; second pen 92¾ to 94; pullets 94½; hens 93. Exhibition for sale. Eggs $2.50 per setting.

George Sherman,

1611 Delaware St. Berkeley, Cal

White Minorcas

White Leghorns

Eggs for Setting

Very best MEAT and BLOOD MEALS. It will pay you to get my prices.

A. WARREN ROBINSON

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WHITE AND BROWN LEGHORNS.

Eggs, $1.00 per 13; $6.00 per 100, in incubator lots. Brown Cockerels $1.50 each.

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Deposit money for tickets for Eastern friends with

PAUL SHOUP

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glass is so suspended that when the sand is spent the glass automatically reverses itself and another hour is being told off.

Concealed in the picturesque tower is the massive machinery, weighing tons and controlling the powerful steel shaft that extends under the center of the floral dial more than fifty feet distant. The powerful machinery is so delicately adjusted that it measures off each second of time with as much certainty as does the most accurate ship's chronometer.

Above the hour glass is suspended a sweet toned bell, weighing 5000 pounds, on which the hour is announced. The sound waves thus created penetrate to the extreme ends of the grounds.

With the first sound of the bell, the massive and beautifully decorated doors to the tower swing open, and the machinery that propels the great time piece is exposed to the view of the public. In one minute the doors are again closed, and the vine covered hands continue their never-ending journey, propelled by a power as incapable of detection as the power that causes the flower to unfold its blossom at the hour appointed by nature or the force of gravity that causes the hour glass to deplete itself in a given space of time.

The entire center of the face of the mammoth floral clock, a space inside the circle created by the numerals, and seventy feet in diameter, is composed of alternanthere, a foliage plant which is commonly known as "Joseph's Coat," because of its many colors. This plant grows low and exceedingly dense, and the mottled and brightly colored foliage completely covers the ground, but will never grow enough to be touched by the hands as they pursue their never ending course.

Encircling this immense bed of alternanthere, and separating it from the fifteen-foot floral numerals that mark the hour, is a narrow band of centaurea, another foliage plant popularly known as the "Dusty Miller." This species of plant, a beautiful silver in appearance, grows a trifle higher than the alternanthere. The band of "Dusty Miller" only eight inches wide, separates the seventy foot circular bed of alternanthere from the twelve beds of the same plant that surround the space on the dial allotted to the large numerals.

The hands of the clock are made of a frame-work of steel, but wooden troughs filled with soil are provided, and in these troughs myrtle, ivy and other creeping green plants grow luxuriantly and completely conceal from view everything but themselves.

The crowning glory of the floral clock is the group of twelve distinct plants that begin unfolding their petals with the morning-glory at peep of day, and as each hour is registered a new plant begins displaying its charms, while the bloom of the plant of the hour before falls and dies, to be reincarnated twenty four hours later. The circle surrounding the numerals is 300 feet in circumference and the sections of hour flowers each occupy a space twenty-five feet long and eighteen feet deep. The sections are divided by narrow strips of foliage plants and each section thus retains its individuality.

Surrounding the twelve groups of flowers that open their blossoms on the approach of the hour hand of the beautiful floral time register, and completing the picture, is a circle of grass, six feet wide, and as smooth as velvet. The visitor may walk around the clock on a spacious granitoid promenade, but a chain encircles the six-foot sward, and the dreaded sign, "Keep Off the Grass," is not in eviden e.

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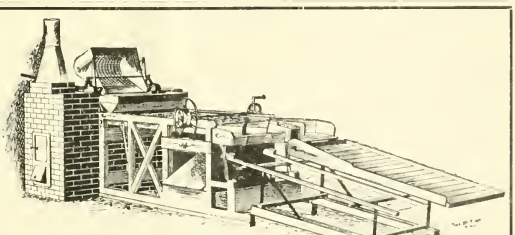

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PACIFIC TREE AND VINE

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Send fifty cents at once and thus settle your back indebtedness and secure the TREE AND VINE for another year. This special offer closes June 15.

What you owe on the TREE AND VINE for back subscription can be canceled and the paper secured for another year by sending fifty cents before June 15th.

Owing to the presence of President Roosevelt in Los Angeles on the 8th inst, which was to have been the last day of the Fruit Growers' convention, the programme of the conventions was condensed and only three days' session held, instead of four as at first intended.

Not one person in ten appreciates the meaning of an inch of rain, or the amount of water that must be supplied artificially to equal such a rainfall, says the Hollister Free Lance. One inch of rainfall is equivalent to 27,149 gallons of water on an acre of 43,560 square feet, or 862 barrels of water 31½ gallons each. At 231 cubic inches to the gallon, the inch of rainfall or water on an acre weighs 113½ tons, or 226,164 pounds, equal to to 72,516 tons per square mile of 640 acres.

We desire to call the attention of our readers once more, and for the last time, to our special offer on subscriptions. We have been making an effort to get every one paid in advance, and to do this have offered to cancel all back indebtedness and send the TREE AND VINE another year upon receipt of fifty cents. Most of our subscribers have taken advantage of this generous proposition, but a few yet remain delinquent. To these we will say that half a dollar, as above mentioned, will pay all the old account and give you the paper for a year in advance. This offer closes June 15, and the subscription price will then be strictly adhered to. Better take the trouble to send the fifty cents without delay, otherwise you may forget it. Don't hesitate on taking advantage of this special offer, for your acceptance of it will be regarded by us as a favor.

The delights of the fruit garden are great. The fruit garden is not desirable only to the ruralist but is equally so to the villager and the city man. Learn how to make a fruit garden and how to enjoy it. You will enjoy it more and more as the years go by. When you get old and infirm you will enjoy it most of all, since it will call you out into the healthful fresh air and sunshine, and keep you there admiring the beauties of the place, and the attractions of the ripening fruit, or the trees in blossom. We need something to keep us continually out in the open air. If the fruit garden is attractive to the parent how much more so is it to the children. All humanity enjoys fruits, but most of all do the children enjoy them and delight in them. Children never will forget the home of their younger days. If it is a bleak and barren place they will remember it; if it is bright and cheery, surrounded with many attractions, the thought of this early home will be one of the bright spots in their lives. Few things can do more to brighten a home or to add to its attractiveness to the old people and the young people than the fruit garden.

To Wine Growers.

Large consumer of claret of New York City desires to correspond with party owning winery regarding making claret for the Eastern market. Address, *E. P., Tree and Vine.*

Yellow Jackets Beneficial

Break open a yellow jacket or a mud dauber's nest, and you will find all the cells filled with caterpillars or spiders, in most cases caterpillars. At the bottom of the sell will be found either the egg or the grub of the wasp. The caterpillars are put in there to supply the little wasps with food. By some peculiar process a fluid is injected into the caterpillars which preserves their lives, but suspends animation, so the young wasp grub always has abundance of fresh food, and just enough for him to eat to get his growth. When it is all eaten the wasp passes through the pupa stage, then comes forth a full fledged wasp and starts in catching and preserving caterpillars for the next generation. The yellow jackets are also death on horse flies, which they capture, decapitate and remove the wings from, in short order, and then fly off with the body. We have seen it stated that they also prey upon the codlin moth, which they may, but in any event they are predaceous and pugnacious little chaps and get away with a great many of our detrimental insects.

Of late years California Privet has been given first place as a hedge plant for dividing the village or city grounds, and for marking lines; etc. This plant is almost an evergreen, the foliage at Rochester, N. Y., holding on nearly all winter. It is hardy here, but may not be hardy further north than Rochester. It makes a beautiful plant when grown alone as well as when grown in hedge form. It has a beautiful white blossom something like a white lilac. The hedge should be cut back with trimming shears at least once every season. The best time for pruning is in the spring, before growth begins.

An Easy Way to Clear Land

Some genius up north, and we will warrant that it is the same fellow that grafts his trees upside down to produce seedless fruit, has hit on a very neat way to get stumps out of his land. Any of our readers who believe him may try it for themselves. He has a portable fence, which he can move around without inconvenience, and he incircles a stump with it, placing within the inclosure two of his biggest hogs. Then he goes to work with a crowbar and makes some holes around the stump, filling the holes with corn or oats or buckwheat, whatever he has handy, and the animals get in their work. In the course of a few days the hogs have so rooted the dirt from the stump that it is an easy job to tip it over and take it away.

Poultry

One of the annoyances in poultry raising is to have eggs for hatching prove infertile. To purchase, at extra prices, sittings, and to have a large per centage of them of no use whatever, is, to say the least, very trying upon one's patience.

If the poultryman is careful he can gain the secret of having the larger proportion of his eggs fertile, and not only fertile, but possessed of strong germs which will develop into vigorous, hardy chickens. Having success along this line he need not depend upon other yards for eggs for hatching.

Having had remarkable success this season in producing fertile eggs, 100 per cent having been attained frequently, the writer offers the following suggestions and hints. Whether the system of feeding adopted is any way accountable deponent sayeth not. The method is what is known as the dry system, all mashes being discarded. A variety of grains is fed, wheat, oats, rolled barley and corn. With these grains, also, a liberal supply of animal food, either in the form of meat meal, blood meal, or beef scraps.

Probably one reason for the remarkable fertility attained is owing to the number of cocks in the flock, as well as the fact that the fowls have quite a large range. One can make no mistake in having an extra cock or two in the flock as this will often guarantee a large per centage of fertile eggs.

The season is rapidly advancing and early hatched chickens have made commendable growth, if they have been well cared for. The spring has been, and is at the present writing, remarkably cool, and there is danger of the young fowls contracting colds. Watch narrowly the entire flock, both the young and the older birds. When the first symptoms of colds appear, the eyes appearing watery and a thick, gummy substance clogging the nostrils, immediately use adequate remedies. The best the writer can recommend is: Equal parts of kerosene, sweet oil and turpentine. Into this mixture put a very few drops of carbolic acid and a liberal supply of pulverized camphor. Insert a few drops of this mixture, using a small oil can, into the nostrils of the afflicted birds, also injecting a small quantity in the throat

Older fowls, afflicted with swelled head and kindred troubles, may profitably be treated to a two per cent solution of permanaganate of potash. This will be found to be very helpful. Hold the head of the afflicted fowl in this solution for a few seconds, twice a day. Also place a few drops of the solution in the drinking water.

But there is little gained in doctoring sick fowls, young or old, if they are very ill. If the disease has penetrated the entire system the hatchet is the quickest and surest method of treating the poor bird. Sometimes; quite unexpectedly to the owner, a fowl will be suddenly stricken down, and the disease making rapid progress, the bird dies in short order.

With careful attention all along the line, with judicious management, with the exercise of a moderate amount of common sense, poultry raising will bring abundant returns. But this business, as is the case with others, cannot be mastered in a day.

"Perservere and conquer."

A. Warren Robinson,
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A Problem in Friends

By G. S.

Nan sat on the edge of the bed, one foot swaying gently backward and forward like a pendulum as she thoughtfully hugged her knee.

"Elaine, if you will cast a meditative eye upon the subject under discussion instead of studying my Sorosis boot, you may come to some kind of a decision."

Elaine looked up with reproachful blue eyes. "Nan, with your heaps of admirers I suppose you can't imagine what it would be to have to decide between two. If you weren't such a dear, I could not have told you anything about it, but —it's awfully hard, Nan. If Ralph only had a bad temper, or no sense of humor, I could say he was counted out, but he never gets angry and he always sees the joke, but—he's short! O, Nan, why can't all men be tall and all girls pretty!" Elaine clasped her hands behind her head and cast a side glance at the reflection in the mirror opposite.

"Well, it is comparatively easy for you now. If they were all tall, you would only need to have a West Point measuring stick and it would be: 'Step up, Tom, six feet two. Come, Dick; six feet one and three-quarters. Here, Harry: six feet two and an eight. Ah, no troublous Venetian chests here. Harry, I love you. Age, race, color, condition, to the winds! Inches—fractions of inches win, and Harry, you're it!"

A well-aimed sofa pillow checked further oratory on Nan's part. "You know if inches were everything, Nan Farrel, Harold Scott would—well, one glance at his Highness would settle the question." Elaine lay back in her huge chair and gazed out at the white cloud masses floating in the summer sky.

Nan sat erect. Perhaps the sofa pillow was responsible for the brighter flush on her cheeks. She glanced quickly at her quiet, languid friend.

"You had not told me the 'other' was Harold Scott."

Nan blushed a little. "You see, I did not know it till Tuesday night. I was so glad Jack came home when he did. He interrupted Harold as we were standing outside that night, and gave me this opportunity for considering. He surprised me so, for, don't you know, Nan, I thought he was one of your faithfuls."

Nan walked to the mirror and adjusted a sidecomb. "Oh, no; we have known each other for ages and that is why he drops in so often. Didn't you answer him?"

"No, and I haven't dared to go down the street his office is on for fear of meeting him. Do you ever feel that way, Nan?"

"No, I've never been afraid of Harold Scott."

"Oh, I mean about the men who say they love you." Elaine rocked idly; Nan hummed a ragtime two-step.

After a short silence Elaine continued: "Harold seems devoted to that Woodman Lodge, and I hate secret orders. I think a man ought to have no secrets from his wife, and he'd be out so much. Now, Ralph doesn't like those things any more than I do. And Ralph writes adorable letters. Harold writes business letters so much I think he couldn't write anything else. And Ralph expresses his fondness for me in a thousand little ways: he's made no secret of it; but I never dreamed that Harold's attention was love. Once Ralph told me,," she added smiling, "than I had Mary Queen of Scots' eyes. I asked him if he knew the lady personally, but he wasn't to be put off that way."

"And Harold never says those things?"

"Well, I haven't talked with him since he said a great deal more than I thought he was capable of saying. But he looks at me! Nan, you know how a man looks at the girl he loves—after he knows she knows."

"Yes, I have noticed a man's indiscretion with his glances; girls may flirt with their eyes, but it's worse to tell the truth. When did you say you would answer him, Elaine?"

"That's just the bother. I told Ralph two weeks ago that I would surely tell him on the 15th, and when Harold said hurriedly after Jack came that night, 'You'll be at the picnic Friday?' I said, 'Yes,' and Nan, Friday is the 15th. So it is one or the other that day. It isn't that I do not care for either; I don't know which I love. I know this sort of thing is not new to you, but doesn't it ever worry you?"

"Oh, Elaine, your heart answers for you. I am not troubled by the many, as you call them, because I am 'fancy free,' you know." she added with a gay little toss of her arms.

Nan seemed to have suddenly lost interest in Elaine's love problem.

A small clock in the hall announced the half hour with a murmuring strike like the soft blow of a playful kitten's padded paw.

Nan grabbed her broad hat. "I had no idea it was so late. Aunt Lou will think me very neglectful. I have not spent much time with her since she and cousin Hal came, but Hal is always around, and he is like all the college men I've met; so proud of himself and apparently fond of the nearest girl. He asked me if he should wear his golf togs or a white tennis suit to the picnic. I suppose the girls asked him to go; I didn't. I told him to wear a dress suit in our set always. Good-bye, Elaine, don't wear out your thinking apparatus over your case. The right man will be the one who will come and carry you off, so you needn't think about the merits or demerits of either."

Nan's haste left her at the first turn of the street Her customary sprightly gait gave way to a lagging step. A heavy heart and a light step never keep company. Even her thought was slow. Friday her lifelong friend was to receive the answer to his proposal of marriage from her chum of years' standing. She did not doubt the regard of either for her. She and Harold had never been other than friends, and Elaine she loved with all the warmth of her ardent nature.

Firmly she mounted the steps of her home. The dull ache would stay with her, she knew, but no one should guess it. Friday at the picnic Elaine would tell her all. But after all what would Elaine's answer matter? The ignominy of loving where she was unloved could never be forgotten.

After her friend's departure, Elaine walked over to her writing desk. "I wonder what made Nan so hurried; she even talked with a jerk." She took two photographs out of the drawer and returned to her chair.

"Harold doesn't look his real size in this picture. He is so business-like and decided looking; a man like that might not be much of a home keeper. And there is that lodge he belongs to. They always make him an officer. He is actually wearing the old stump button in this photo."

She tossed the picture disdainfully on the bed, and rocked nervously, holding Ralph's photograph before her face. Slowly a smile took the place of the pout.

"He is so merry-hearted, and I think we are mentally companionable. Yet he is short: I'd have to give up French heels. But he says such lovely things, and he is so jolly?"

* * * * * * *

Late in the afternoon the picnic party was called to assemble for the homeward ride by the blowing of the tally-ho horns. As the merry-makers came in groups and couples from up and down the river and from the oak-shaded bluff, a casual observer might have noticed a young man and a girl idly walking toward the coach.

From her high seat beside her cousin Hal, Nan Farrel greeted them with a flourish and a discordant blast from her horn. She saw two lovers; a tall erect man whose face bore the stamp of a clear conscience and a new-found joy; and a fair girl whose every movement was vibrant with happiness and upon whose flushed right cheek showed the print of a Woodman button.

Horticultural Notes

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Mulberries make splendid shade trees for the poultry yard, and the fowls devour the berries.

Tear out old and good for nothing trees; plant good ones of the sorts which suit your local conditions.

Young trees should not be trimmed too liberally, as too much foliage taken from the tree weakens its feeding powers.

A large orchard poorly planted and poorly tended will not produce as good results as fewer trees well cultivated.

Many an unoccupied fence corner might be growing a tree if set there. In a few years it would be a source of beauty and comfort.

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In many instances apple trees bear only every other year. Were it not for this fact the trees would necessarily be very short-lived.

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Flavor	.55
Grain	.25
Solidity	.10
Color	.10
Total	100

Any standard is necessarily arbitrary and all standards heretofore adopted, including the one above, are made from a commercial standpoint. We have but one criticism of the World's Fair scale: We would combine the items of grain and solidity under the head of texture, believing this covers both.

The average butter consumer would endorse a scale about as follows:

Flavor	.75
Texture	.20
Color	5
Total	100

The values at which butter made in the St. Louis test will be credited, are as follows:

From 75 to 80 points at 25 cents
From 80 to 85 points at 30 cents
From 85 to 90 points at 35 cents
From 90 to 95 points at 40 cents
From 95 to 100 points at 45 cents

Solids other than fat to be credited at two cents per pound. The increase or decrease in live weight will be credited or debited at four cents per pound.

Calves

Prof. W. J. Kennedy of the Iowa Exchange Station gives the following advice:

"Calves should be given all the new milk they will drink, but should not be allowed to suckle the dam. They should be taught at any early age to eat grain and hay, which is a most essential part of a calf's education. The grain ration may consist of corn, oats, bran, and a little oil meal, the grain being fed three times a day and hay morning and evening. Clover hay is always to be preferred when it can be had, but oftentimes we have had to use a mixture of clover and timothy. Plenty of good, fresh water should be offered the animal twice a day. Comfortable, well bedded quarters should be provided. Plenty of bedding is just as necessary as plenty of food to eat. Always allow the animal plenty of outdoor exercise. Without such exercise it is impossible to keep an animal in good health and always ready for its feed.

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Queries and Answers

By John Isaac

Miss U. Napa—Yes, the California poppy (Eschscholtzia California) is the recognized state flower. The last legislature passed the bill creating it such and this was signed by Governor Pardee.

P. L., Fresno—Australian salt grass does not seem to be doing all that was claimed for it when it was first introduced and little has been done with it recently. You can get full particulars concerning it by applying to the university.

J. R. S., Alameda—A good composition for potting plants can be made from one part of good loam, one part leaf mold, one part well-rotted cow manure and a good sprinkling of sharp river sand, well worked through the whole mass.

J. W. R., Santa Rosa—Sulphur is the best remedy for rose rust and mildew. It should be used before the leaves appear, to be most effective, but a thorough dusting of sublimated sulphur now will go far toward checking the spread of the disease.

Inquirer, San Francisco—Lodi, in San Joaquin county, was for a long time the chief section producing water melons in the state, but the center is now removed to Fresno. Continuous cropping to melons caused them to deteriorate and superior fruit was produced in Fresno, from which section we now get the bulk of the fruit.

W. B. R., San Jose—For aphis on your rose bushes the simplest remedy is common laundry soap. A bar of this dissolved in about two gallons of water and applied warm will destroy all that are reached by it. It may be necessary to spray several times as even after they have been destroyed, these pests will soon make their appearance again.

Mrs. S., San Francisco—A little oil of red cedar, which you can get at the druggists's will keep moths out of your trunks, bureaus and closets. Apply it around the corners and in any of the cracks or crevices with a camel's hair pencil. Do not use so much as to soil any clothing with which it may come in contact. Camphod and napthaline are also good to keep the pests away.

R. T. P., Salinas—There is no reason why you should not keep a few Belgian hares for your own use, but as a profitable investment they are not to be recommended. Very much might be said in favor of these animals as a help on the farm, but after the wild schemes which breeders indulged in a few years since people became so disgusted with them that it is not altogether advisable to advocate them.

H. P. M., Petaluma—Here is a very good whitewash that may answer your purpose and will stand for four or five years: Shake a bushel of lime, strain, add a half-bushel of salt which has been dissolved in water, and six pounds ground rice, after being made into a paste. Stir in while boiling one pound of ground whiting, and two pounds glue, well dissolved in a double boiler.

Wm. W. K., Santa Cruz—Asks how many trees he can plant on an acre of land. How many he should plant depends upon the kind of trees and the character of the land. Peaches, plums, prunes, etc., are usually set in squares at 20 feet apart and require 108 trees to the acre. Apples and other large spreading trees are set 30 feet apart and give 48 to the acre, while walnuts and figs, which have a very wide spread of branches, should be set 40 feet apart of 27 to the acre.

Mrs. R. L., Alameda—Rex Begonias may be propagated from leaves of the plant. The leaves should be large and well matured and be either pegged down in the propagating bed or weighted down with a little sand. The principal ribs on the under side should be nicked, and if properly done, a young plant will start from every cut. The requirements are a bed of clean river sand, kept moist, but well drained, a steady temperature of about 70 degrees and projection from the light for a few days until the young plants commence to root. When the small plants have formed roots, they may be potted in small pots.

E. J. C., Yuba—It is too late to do much for peach curl leaf now. When the disease shows itself the damage is done. However, an application of the Bordeaux mixture, summer strength, may save the second crop of leaves that will come out when the diseased crop has dropped. The curl leaf if a fungus disease. The spores find lodgment on the twigs of the tree and remain there during the winter months. As soon as the buds begin to swell in the spring these spores awaken to activity and the damage is done. All trees affected with the curlleaf should be thoroughly sprayed during the winter with the salt, sulphur and lime wash as a preventive measure. Moist, cool weather, such as we have had this sprint, is especially favorable to this disease.

Thinning Fruit.

The question of thinning is one which now absorbs the attention of growers of canning fruits. The canneries are very exacting, only the best will suit them, and these have got to reach a certain standard in size or they will be rejected and are then only to be used on the drying ground. Where peaches and apricots have set lightly, not much thinning will be required, but in most cases some, and in many cases very vigorous thinning is necessary, if saleable fruit is to be produced, and the sooner this work is commenced after the fruit is set, the better. The object of thinning, of course, is to throw the whole growing force of the tree into the fruit that is left, and where much of this energy is wasted in producing fruit that is to be rejected, the tree is so much weakened and the remaining fruit stands less chance of attaining perfection than where the work has been done early and the whole fruit producing energy of the tree given to that which is to be left

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Thinning is a heart-breaking job. It always looks, when the work is done, if it be properly done, as though the whole crop had been stripped from the trees, and that none is left to ripen. Usually it develops that plenty has been left, and sometimes the temptation to leave too much fruit on the trees is too strong to be overcome and, in spite of all, the tree is overburdened.

Thinning should commence as soon as there is no further danger of a heavy drop, and before the fruit is too large. From six to eight inches apart is the right distance to leave the specimens on the trees, and if the best results are to be obtained, the work must be thoroughly and conscientiously done. Unless this is done the trees will be overloaded, the fruit small, scrubby and unsalable, and even when dried it is questionable whether the price obtained will pay for the trouble required. To produce good fruit the trees must not be overburdened, and unless the superabundant fruit is removed by some natural process, it must be taken off the tree by hand before it has attained sufficient growth to affect what is to be left.

Small Fruit Culture.

A Sonoma county correspondent asks for some information in regard to berry growing, for which he says, his section is especially well adapted. Any land suitable for corn will produce good berries. The land should be deeply plowed and thoroughly pulverized before planting, and this is essential if success is to follow. The rows should be about eight feet apart and the plants set four feet in the rows. February and March are the best months for planting and when the cane has reached a height of three feet, it should be pinched back, which would cause it to throw out laterals. When these have a spread of about eighteen inches they should be snipped off with the pruners, and this cutting back may be continued with advantage through the summer, producing a heavy growth of new wood which will bear the next year's crop.

When the canes have borne one crop they have passed their usefulness and must be removed and the new growth encouraged for the coming season's crop. The patch should be kept thoroughly cultivated for the double purpose of keeping down the weeds and conserving the moisture in the air. The following hints to berry growers will be found useful:

Fine manure, raked or cultivated in near the surface, will add fertility to the soil and make your plants grow. An application of wood ashes will supply the soil with potash so necessary in the berry garden. If any plants have failed to grow, set new ones in their place at once. A large percentage of labor is often lost by this neglect and profits for several seasons reduced. The size and quality of berries may be improved by severe pruning of laterals in the early spring.

Picking, packing and marketing are important factors in the growing of berries for market. The grower should understand at once that choice berries are always in demand, at good prices, and the market is never overstocked, that poor berries seldom sell well, and the market is easily overstocked; that it costs just as much as much to raise poor berries; that it costs as much to pick and pack poor berries; that freight and express charges are just as high on poor berries; hence, there is profit only in growing the best for market. Berry boxes, picking cases and shipping cases should be ready before the hurry of the season begins. Clean, well-made packages, neatly stenciled on the sides with name and residence, soon become your "trade mark," let it also be a guarantee of good berries honestly packed. Never allow stems, leaves, imperfect or unripe berries in the box. Handle carefully. Always have a uniform quality without, and the boxes well filled. Berries carry better if boxes are rounding full. For long shipments, pick every day, and before fruit is too ripe. Never offer poor berries for sale; never use a poor or inferior package. Let markets be as near as possible and to regular customers. If you would have good markets for your berries, always deal honestly with your customers.

Recent conditions indicate that the coming fruit crop may not be so heavy as indications seemed to promise a few weeks since. In the great pear district along the Sacramento river, pears have been attacked by a fungus disease which has stopped their growth and caused them to drop heavily. In the Southern San Joaquin valley, this crop will be a total failure, owing to the pear blight, so the indications are now that the pear crop will be a light one. Early peaches in many places will be light, but late peaches promise better. Reports are now uniform in regard to the peach crop, some sections reporting the early peaches as almost a complete failure, and others as very good. Although we may count upon an average peach crop. Prunes are also somewhat spotted, being very light in some sections, but, as a whole, there will probably be a full crop. Cherries will yield a good crop, if weather conditions remain favorable. Apples are setting very well. Other fruits remain unchanged and will run from fair to very good crops. On the whole, however, one may look forward to a fairly good fruit season.

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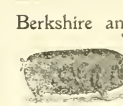

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Copper sulphate (blue vitriol) 4 pounds
Quicklime (not air-slaked) . . 4 pounds
Water, to make.....50 gallons

Dissolve the copper sulphate in about two gallons of hot water contained in a wooden vessel, by stirring, or even better by suspending the sulphate contained in a cheese-cloth sack in a large bucketful of cold water. With the cold water and cheese-cloth bag a longer time is required. Pour the sulphate solution into the barrel or tank used for spraying, and fill one-third to one-half full of water. Slack the lime by addition of a small quantity of water, and when slaked, cover freely with water, and stir. Pour the milk of lime thus made into the copper sulphate, straining it through a brass wire strainer of about thirty meshes to the inch. Pour more water over the remaining lime, stir, and pour into the other; repeat this operation until all the lime, except stone lumps or sand, is taken up in the milk of lime. Now add water to make 50 gallons in the tank. After thorough agitation the mixture is ready to apply. The mixture must be made fresh before using, and any left over for a time should be thrown out or fresh lime added.

Time to Move Bees.

The best time to move your bees is early in spring, at any time when the weather is mild. Whether raising extracted honey is more profitable than comb honey depends upon the market you intend to supply. Ordinarily, comb honey sells the best from the fact that extracted honey is a new thing in many localities, and requires extra labor to work up a trade for it. The hives known at present as the "dovetail hives" are the latest and best hives, and in fact there are scarcely any others now offered. The one-pound section is the most popular, and should have two openings, so that you can use two tiers of them at the same time. With but one opening, you would have to confine them in but one tier, and they could not be interchanged.—Practical Fruit Grower.

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One more agricultural novelty in Colorado is an eighty-acre currant patch. As far as is known, this is the largest currant patch extant. In this currant patch there are 135,000 plants set out in rows seven feet apart. The plants are three and a half feet apart in rows. One hundred and fifty hands, old and young, are employed at picking time. One and one-fourth cents a pound is paid for picking, which enables expert pickers to make as high as $2.50 a day. A currant bush in Colorado will produce at least a gallon of currants. Some produce ten gallons.

The crop of black raspberries depends on the new growth made this year, says New York State Farmer. It is a surprising fact—one hardly to be believed, but true—that not one man in five among farmers knows that a berry cane only bears once. I have seen men, otherwise quite intelligent, trimming up the old canes, thinking to get a second crop. Even growers of small fruits only half realize the fact, and leave the canes to grow as they will during the summer without pruning or any care.

Hon. Elwood Cooper, who was one of the pioneers in planting the eucalytus in this State, and who published the first book on the species, is now arranging to establish a factory for the production of eucalyptus oil. The oil made from eucalyptus wood has been known for years as one of the most effective remedies for many ailments, especially those of a febrile nature. Mr. Cooper has used this oil in his own family for many years, and regards it as almost a panacea for all the ills that flesh is heir to. Beyond a doubt it is an efficient medicinal agent and is useful in many other ways. There should be a good demand for it when it is produced in commercial quantities.

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The new Columbia bicycles are the lightest road models ever made, but no element of strength has been sacrificed. Price, $40.00; Hartford, next best, $35.00; Vedette (the best for the price,) $25.00.

A complete stock always on hand at the popular

COLUMBIA CYCLERY

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Kelley Laundry Co.

Has a Main Office where you can leave and call for your bundles.

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AN EASY WAY to get a home at a cost of 50 cents a month, and $1.00 a month after maturity on each $1,000.00. We will buy you a home anywhere, at any time, and give you from 8 to 10 years to pay for it. NO INTEREST.

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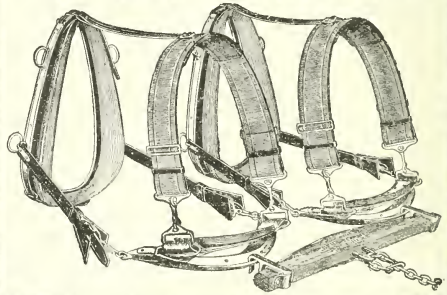
BAKER'S

TRACELESS HARNESS



No Whiffletrees—No Traces

This harness is indispensable to every fruit grower—vineyardist or orchardist. Saves time, labor and patience. Pays for itself many times over every season in the saving of injury to trees and vines and damage to growing fruit, which always occurs from the use of ordinary whiffletrees and traces. One of the handiest of farm equipments.

We have hundreds of testimonials from every State, like the following:

Dear Sirs: Florin, Cal., July 5, 1902.

I put your harness on a span of horses that weigh close to 1400 lbs. They broke centers in a vineyard for two weeks at a stretch and seemed not to notice **that they were in a different harness**, though one is a very nervous horse. I never had as much pleasure in plowing as I did with that harness. No broken vines, no stepping over traces and no traces to catch. It makes vineyard plowing a pleasure instead of hard work.

F. F. ROBINSON.

Don't delay—write us to-day for illustrated catalogue of this valuable harness, mailed free. Live agents wanted everywhere.

B. F. BAKER COMPANY, 219 Main St., Burnt Hills, N. Y., U. S. A.

HOOKER & COMPANY, Distributing Agents,
16-18 Drumm St., San Francisco, Cal.

A True Disciple

The Christian rests Sundays,
On Monday the Greek,
On Tuesday the Persians
Their soft divans seek;
On Wednesday the Assyrians
Refrain from all work;
On Thursday the Egyptians,
On Friday the Turk.
The Saturday Sabbath
The Hebrew proclaims,
And that's how the world
Ease for labor ordains.

I render the service
To every creed due,
And at heart am a Turk.
Egyptian and Jew,
Assyrian and Persian,
Some Christian and Greek;
And to prove it, I rest
Every day in the week.

Feeding Bees Early in Spring

If you wisn the best results, as soon as it is warm enough for them to come to the entrance of the hive, feed them as before and place a shallow dish of wheat flour where it will be accessible to them. The queen seeing the necessary supplies coming in immediately begins laying the eggs which will restock the colony. She is a close observer of the commissary department and governs herself accordingly, writes Mrs. Goodrich, in N. E. Homestead.

The object of early feeding is to get early laborers for the field, and if this feat is accomplished sufficiently early in he spring a good harvest may be had, beginning with the fruit blossoms and continuing throughout the summer. If the queen is obliged to defer laying until the honey comes in from outside bloom, by the time the young laborers are ready for business they may be able to gather enough honey to winter on, and they may not, especially in the more northern latitudes.

Spring set strawberry plants will nearly always bloom some, but if they are allowed to set fruit they will be in a measure retarded from growing. It is better to pick off all the blossom stems as soon as they appear. The first runners should always be allowed to set and make plants because the earlier they start to grow the larger and thriftier they will be. One such plant is worth several of the later ones, because they have the time and opportunity to form strong fruit buds for the next year's crop.

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A Specialty. Winners First Prize Breeding Pen Sacramento State Fair, 1900 and 1901.

EGGS IN SEASON, $2.50 PER 15

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When your windows break, to call on

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and have them repaired before they fall out. We also build Greenhouses and make

Art and Leaded Glass

which will help beautify your home. Call us up.

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Home of the BROWN LEGHORN

Fine young stock now ready for shipment at reasonable prices. If you want HEAVY LAYERS you should have some of our BROWN LEGHORNS. Let us furnish you a trio or breeding pen. Get the best, and they will pay for themselves in a short time. LARGE BIRDS and layers of LARGE EGGS. Send for our circular. It's free.

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La Perlita Del Monte Poultry Farm

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Buff, White, Black and Partridge Cochins; Buff and White P. Rocks; Light Brahmas, White and Black Langshans, White Wyandottes, White and Buff Leghorns, R. C. Brown and White Leghorns; Black and White Minorcas; Black and White and Buff Cochin and R. C. Black Bantams. Bronze Turkeys. Toulouse and Emden Geese. Pekin Ducks. Pea Fowls and Pearl Guineas. EGGS FOR HATCHING. Write for prices and particulars We guarantee satisfaction in all cases

T. B. C. SIELCKEN, P. O. Box 61, Calistoga, Cal.

Begin Now to feed for Eggs and you will have them to sell when others are just realizing that

EMERY'S POULTRY FOODS

did it. Ask your dealer for Emery's Poultry Foods. All commission men handle them.

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The Best Material and the Best Workmanship Only

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FROUDE OIL FIRE POTS IN USE IN ORCHARD.

Oil Pot Record in a Prune Orchard

Mr. A. Block, the well-known orchardist of Santa Clara, by actual test raised the temperature ten degrees with 40 Oil Pots to the acre, and a raise of 7 degrees when 30 Oil Pots to the acre were used.

WM. KELLEY

Agent for Santa Clara County.

—Located at—

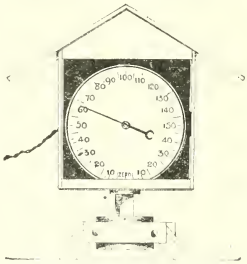
GARDEN CITY NURSERY,

Between Post Office and City Hall

SAN JOSE, CAL.

The Bolton Electric Alarm Thermometer

which sets in your orchard and persistently rings an alarm bell when the danger point is reached with the **Froude Frost Fighter and Oil Pot** which burns crude oil and makes the hottest fire on record at the cost of a few cents.



Cut shows plan of setting up the Bolton Electric Alarm Thermometer. Wires may be extended to any distance required.

Froude's Oil Fire Pot

burns crude oil for deciduons orchards at a cost of 2½ cents for six hours of red hot fire. Get a sample and see the heat it throws out. One man with a torch can light up the whole orchard in a few minutes. We send a sample by express, prepaid, on receipt of 40 cents, to pay packing and forwarding charges

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Light and Heavy Carriages and Buggies made to order. General Jobbing given prompt attention. Rubber Tires a specialty.

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Kills Currant Worms, Potato Bugs, Cabbage Worms and other insects that destroy flowers.

SOLD BY THE SEED DEALERS.

For pamphlet on bugs and blights address B. Hammond, Fishkill-on-Hudson, N. Y.

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Breeds the leading strains of Heavy Laying S. C. WHITE LEGHORNS

Eggs for hatching: $1.50 per setting; two settings, $2.50; $5.00 per 100.

E. L. DUNSHEE Mountain View, Cal.

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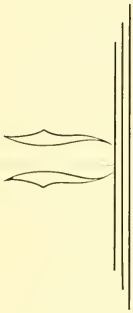

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Custom-made, Faultless Fit,
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A Regular $25.00 Suit

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Also a really Good, Servicable, Sensible Office or Working Suit--good enough for anyone--Durable and Stylish,

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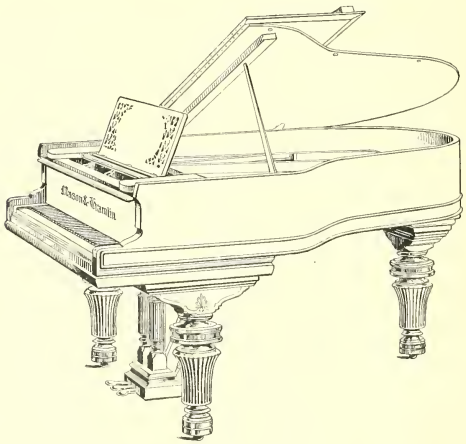

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